

THE
Hospital Surgeon.

V O L. II.

CONTAINING

Several E S S A Y S

O N

Mercury.
The Descent of the
Intestine into the
Scrotum.
Injections.
Wounds of Dogs.
Wounds of the Breast.
Crooked Wounds.

Red Pimples of the
Face.
Diseases of the Eyes
and the Pestilence.
Incytated Tumours.
The Meaning of the
Word *Escar*.

With Two LETTERS to

M. A. BOCCACINI.

By AUGUSTIN BELLOSTE,
First Surgeon to Her Royal Highness the
late Dowager of Savoy.

Dedicated to the King of SARDINIA.

English'd by J. B. M. B.

L O N D O N :

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under the *Royal-Exchange*, Cornhil.

M D C C X X I X.

Hospital Surgeon

V. O. L. II

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DEDICATION.

ROYAL MATHEMATICAL
YOUR MAJESTY, about twenty
Years more, I shall be my self

K I N G

VOLUME OF MY HOSPITAL
SURGEON. YOUR MAJESTY'S
MAJESTY'S

SARDINIA.

tion the former Volume has met
with, This will stand in need of
YOUR MAJESTY'S

on, as it advances a new system
which notwithstanding

S I R E,

HAVING had the Honour
to serve YOUR MAJESTY
about forty Years together in
the Quality of Surgeon-Major
of YOUR MAJESTY'S Hos-
pitals of War; and having since
that Time had the further Ho-
nour to be first Surgeon to YOUR

A 2

ROYAL

DEDICATION.

ROYAL MOTHER of Glorious Memory, about twenty Years more, I thought myself obliged, in Acknowledgment of my Duty, to lay the Second Volume of my HOSPITAL SURGEON at YOUR MAJESTY'S Feet.

WHATEVER good Reception the former Volume has met with, This will stand in need of YOUR MAJESTY'S Protection, as it advances a new System, which notwithstanding its Usefulness, will be sure to meet with Opponents.

BUT, SIR E, it has been admitted as a Maxim in all Ages, that the General should be preferr'd to any Particular. Altho' YOUR MAJESTY has honour'd

DEDICATION.

honour'd me with Your Suffrage, tho' You have been convinced of the good Effects of my Mercury, and have even publish'd my System; yet I leave it entirely to the World to receive, or reject it; contenting my self with having obey'd YOUR MAJESTY'S Commands in that which Charity and the Welfare of afflicted Patients seem'd to exact of me.

I MAY be with Reason condemn'd for moving out of my Sphere, but the prodigious Experience which has fallen to my Share, did in a Manner compel me to do so.

I COULD, on this Occasion, no more bridle my Zeal for the Good of the Sick, than I could

DEDICATION.

could formerly for the Good of
the Wounded.

My Method has had the Honour to meet with YOUR MAJESTY'S Approbation: You have seen the Success of it on several Occasions, and in Cases of the highest Importance; which Success having surpass'd even my own Expectation, refuse not, I beseech You, SIR E, the Homage of my last Labours, which I offer to YOUR MAJESTY.

HONOUR, with Your Royal Protection, an old Practitioner, who in the Tracts which make up this Collection, still continues to deliver to Mankind gentle and easy Methods, whereby they may be rescued from many considerable

DEDICATION.

siderable Evils ; and who places
the whole Glory of his Success
at Your Feet with the utmost
Reverence and Submission, de-
siring to live and die,

SIRE,

YOUR MAJESTY'S

most humble, most obedient,

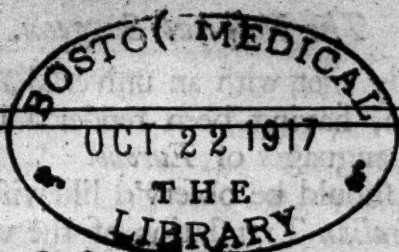
and most faithful Servant,

BELLOSTE.

CONTENTS.

O <i>F Mercury</i>	Page 1
<i>Of the falling of the Intestine into the Scrotum, &c.</i>	126
<i>Of Injections</i>	153
<i>Of the Wounds of Dogs</i>	164
<i>Of penetrating Wounds of the Breast</i>	172
<i>Of crooked Wounds</i>	221
<i>Of red Pimples of the Face</i>	242
<i>Of Diseases of the Eyes, and of the Plague</i>	252
<i>Of incystated Tumours</i>	275
<i>Of the Meaning of the Word Escarr</i>	293
<i>Two Letters from M. Belloste to M. Boccacini.</i>	303

THE



Hospital Surgeon.

V O L. II.

Of Mercury.

I MAY well enough be excused the Ceremony of a Preface to the following Pieces, since my Reader will soon perceive them to be the Result of a long Practice and Experience, join'd with a sedulous Application. It may not, however, be amiss to acquaint those who have not read my former Work, which was first printed in 1695, that this has a Connexion with it; and may be esteemed an additional Advantage thereto, as it serves to perfect and compleat it; tho' without such Assistance it has

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already

already met with an universal Approbation, having been render'd into all the Languages of *Europe*.

It should be observ'd likewise, that the *Italian* Translation of the very famous M. *Sancaſany*, Counsellor and first Physician to his Highness the Duke *de Guastale*, has brought over some Persons who were obstinately tenacious of old Maxims, and had written professedly against this new Method.

Surgery owes them this Obligation ; that their Obscurity has thrown a new Light on my Imagination, and has, as it were, compell'd me to produce such Reasons and Proofs, as may make some Progress in the perfecting our Art ; and on this Motive I resum'd my Pen. I think I'm bound to ward off the indirect Attacks made on my zealous Translator, by answering all Doubts and Objections, and by opposing the false Maxims of Antiquity with Reason and actual Experience.

In the Affair of this Dispute, I was not a little surpriz'd to see my Letters translated and printed, by the Care of my sagacious

gacious Translator, notwithstanding the harsh, laconic, obscure and inartificial Style in which they were written.

However they happened to be well received by many very excellent Professors, of which there is an abundance in *Italy*. My Translator has several Pieces in his Possession, of which I never took a Copy; and in this Collection there are some already printed in *Italian*, which I have review'd, amended, and made some Additions to; but as the *Italian* Tongue is not much in use in *France*, I chose to publish them here, in the same Language with my former Work.

I should observe likewise, that I had the good Fortune, of my own accord, to fall in with the Opinion of the famous *Cæsar Magati*, and afterwards to raise him up out of the Obscurity in which he had remain'd for more than a whole Century together.

This is a sort of Miracle wrought by my former Work. The Reader will meet with other Miracles of Art in this: Eyes entirely lost, restor'd by one sin-

gle Operation, and a Number of exquisite and mortal Cases, according to a wrong way of Treatment, conquer'd by gentle and speedy Methods. These will appear upon a Perusal of this Work; and a faithful Practice will evince the Truth of them. The Resuscitation of *Magatus* is owing to Chance: The happy Success of our Operation in Diseases of the Eyes, is no Invention of mine; I have only had the Advantage of setting it forth on several Occasions, having never met but with one Person in all my Life who put it in practice before me.

Mercury, whose Virtues I here publish, is a Miracle of Nature, and the greatest Gift of Providence in the whole *Materia medica*.

Chance has let me into a greater Knowledge of it, than all I could collect from those who have used it, or wrote of it.

I am ready to acknowledge, it was not in consequence of any Reasoning, that I first enter'd upon the Use of it; however, the Success I met with from

its

its Administration emboldened me to stick to it, and to add Authority to one Experience, by another ; my future Employments gave me frequent and favourable Opportunities of trying its Efficacy in many chronical and inveterate Cases, which were esteem'd incurable, yet they entirely gave way to crude Mercury. I have found out a Method to prevent it from subliming, tho' without such a Restraint, I cannot be of opinion that the Heat of our Bodies is sufficient to sublime it. I have mix'd it with gentle Purgatives, which determine one Part of its Action by Stool ; another Part of it communicates itself to the Blood, mixes with the Lymph in Circulation, without losing its globular Figure, and never leaves it till it has render'd it capable of penetrating every where by its Subtilty and Fluidity, and of nourishing all Parts by means of its balsamic Particles, which it re-instates in their natural Condition, when they are deprav'd and alter'd, and removes all Obstacles that may impede its Progress.

6 *The Hospital Surgeon.*

gress. It is a profess'd Enemy to every thing heterogeneous, vitiating, or malignant : As I became acquainted with its Virtues thro' a long and constant Use of it, I have not been very anxious about consulting the Authors who had written of it, having perus'd but a few of them : I know that some extol it, as Mr. *Lemery*, and others.

Avicen says, that some People drink it without any ill Consequence, and orders it for Children in Scald-heads. *Planiscampus* attributes more excellent Qualities to Mercury than to Guaiacum. *Marianus Sanctus* directs four Pounds of it to be taken in the Iliac Passion. *Antonius Musa*, and *Mesué* recommend it for Worms and the Itch. Mr. *le Duc*, a Physician, who made a Voyage to the *Levant*, tells us, that the Women of *Smyrna* frequently swallow two Drams of it at a time to make them conceive : He laughs at those who think it a Poison ; for, says he, the Workers in Quicksilver-Mines have gotten a Trick of swallowing some Pounds of it, just as they are leaving
off

The Hospital Surgeon. 7

off work ; which as soon as they get home they discharge and sell. To prevent which Roguery, 'tis usual to shut them up for some Hours after they have done work, and so they'll be constrained to let go what they have swallowed.

Some look upon it to be hot, and others cold ; however, if it softens the Blood, if it mitigates the most exquisite Pains, and appeases the Tumult of the Spirits in the *Volvulus*, and in many other Disorders ; if it disposes Persons to grow Fat, as without doubt it does ; these Considerations put together, make it more probable that 'tis cold than hot, at least that 'tis of a Temper between both.

But be it hot or cold, 'tis its Effects that I have regard to, and not its Qualities. Let it be extoll'd or condemn'd, its Goodness will be still the same : 'Tis Matter of Fact that no one Thing in Nature is capable of producing so salutary and surprizing Effects in almost all Disorders ; notwithstanding many take upon them to run it down : 'Tis

8 *The Hospital Surgeon.*

indeed a good Medicine, cries one, but then 'tis dangerous: This is giving it a good and a bad Character in a Breath, and thereby making way for Fears and Doubts, and depriving a Number of afflicted Persons of the speedy Help they might obtain from its Use, till they have languish'd out their Lives under a Load of Diseases and fruitless Remedies.

Experience being the strongest of all Proofs, I thought it might not be improper to relate some Cures perform'd at different Times, on different Subjects, and in different Disorders. Were I to publish all those which I have performed in the space of the three and forty Years that I have made use of Mercury, a very large Volume would hardly contain them. In this Treatise I have taken the same Method as in my former Work, where at the End of the Cure of each Wound, I have annexed an Observation by way of Reflection; and in this I have likewise subjoin'd a kind of *Rationale* to every Experience, in order to explain the Mechanical *Idea* which I had of this Remedy.

In

In the Year 1681, being at *Turin*, a young Abbé inform'd me, that after an impure Commerce, he had been attack'd with some venereal Complaints, which were taken but bad care of; that some Months after he was afflicted with nocturnal Pains in diverse Parts of his Body, together with an Ulcer in his Nose, which he shew'd me. He told me that the Posture of his Affairs, and the Season of the Year, would not permit him to enter upon a strict Course of Medicine; and that it was of the highest Consequence that his Disorder should be kept in Privacy; desiring me to contrive him something which might for the present hinder its further Progress, and in the Spring he said he would go to *Paris* for the Conveniency of pursuing his Cure.

I had at that time but a superficial Knowledge of Mercury; so I made him up, according to my usual manner, a Mass of purging Pills, and order'd him to take a single Pill every other Night going to Bed.

He had not taken them above five times, before he told me his Pains were diminish'd, and his Ulcer become much better. And after eleven or twelve Doses, he found himself intirely cur'd, to his own Surprize as well as mine, who imagin'd I was all this while administring no more than a palliative Remedy.

I advis'd him however to continue his Medicine for some little time longer, for security's sake; and 'tis very certain that he never afterwards felt the least Symptom of the Disorder.

If we consider, that Mercury is the only Remedy capable of destroying the venereal Virulence, it will be no ways surprizing that it wrought this Effect in the present Case. But it seems not easily to be accounted for, how it should act in so salutary a manner, without giving the Patient the least Inconvenience or Conflict; he having never, thro' the whole Course of his Cure, been interrupted in his Sleep, or Diet, nor was he confin'd to his Bed or Chamber, or any ways alter'd his usual way
of

The Hospital Surgeon. - 11

of Living, so as to give any one the least Suspicion that he was under a Course of Physick.

This was the first Cure I ever perform'd in such a manner, being at that time Surgeon Major of the Hospital of *Briançon*, where I administred the same Remedy to a great many Persons, with the same Success. In the Year 1694, *Mr. le Marechal de Catinat* sent me several subaltern Officers to *Oulx*, who were attack'd with the same Maladies: They took no other Remedy, and return'd to the Army in six Weeks, fat, brisk, and sound, without farther Trouble. I omit a Relation of the Particulars, for the sake of avoiding an offensive Prolixity, and shall only give one Instance of a Cure of each Kind, unless some extraordinary Circumstance induces me to the contrary.

In the following Year 1682. *Mr. le Comte de S. George*, Gentleman of the Horse to her Royal Highness, and a Captain in the Guards, desir'd me to visit the Corporal of his Company, who for two Years had a schirrhous Tumour,

mour, at that time as big as ones Head, which cover'd his right Thigh, so that he was forc'd to walk very incommo-
diously with a Pair of Crutches: The most noted Surgeons in *Turin* had order'd him many Remedies without Success: I was resolv'd to try what Mercury would do with him, and having continued it in the manner afore-mentioned for eighteen or twenty Days, the Tumour softned, and came to Suppuration. I opened it, and there issued from it seven or eight Pints of Pus and Lymph, and in a Month he was perfectly cured, laid aside his Crutches, and walk'd at liberty.

This second Cure gave me a high Esteem for the Remedy, but my Removal to another Station soon afterwards, debarr'd me of frequent Opportunities of applying it as I wish'd. Besides, my Age had not as yet advanc'd me to a requisite Degree of Credit for Acting as I thought proper, so that I was forc'd to wait a more favourable Season.

In the Year 1687, being Surgeon Major of the Hospital of *Luserne*, I made use of it with Success in several hard and schirrhous Tumours. I found that those which were but of a moderate Size, and of no very long Duration, would be dissipated without Suppurating; and that the large and old ones would come to Suppuration. This made me of Opinion, that notwithstanding their Hardness, Age, and Insensibility, yet they were not intirely without a Communication with the Fluids.

To give a mechanical Explanation of the Effect which Mercury is able to produce in these Tumours, it must be considered that the Matter which forms *Schirrbus's* and other Tumours that are owing to Congestion, as well as Obstructions in all other Parts of the Body, cannot put its self in Motion, when it is once accumulated and stop'd: Notwithstanding the Springiness of the Parts, there is an absolute need of something to shock, subtilise, render it fluid, and disunite it.

To

To answer these Purposes, the Fluids which circulate in Tumours, as likewise in all Parts of the Body, must be put into a rapid Motion, sufficient to disconcert, loosen, and remove that which before was fix'd and motionless. 'Tis Mercury alone that is complete in these Indications, as it unites it self with the Lymph, follows its Motion, and accompanies it through all Parts.

These little Globules, divisible to Infinity, roll along with it inseparably: The Rotundity of their Figure make them fit to combat the Obstacles they meet with in their way without any fear of their being stop'd, withheld or entangled: They slide upon, strike, rub, and set in Motion the Particles of the Matters which were united, glued together, connected and coagulated, in the Parts, or in the Glands, contrary to the Laws of Nature: They render them fluid, reduce them to Pus, or carry them away with themselves, to eliminate them out of the Body by the perspiratory Passages, or by Stool or Urine.

By

By this Mechanism unnatural Tumours, Obstructions in Ulcers, and other Parts of the Body, are destroyed, the Fluids being re-establish'd in that free Course which is necessary to Life, and the Preservation of Health: Such is the Conception which I have of the two Operations of Mercury on Coagulations; that of absorbing, and that of dissolving; tho' these are Philosophical Terms, which with regard to operative Effects are to be explain'd in a quite different manner, as I shall endeavour to shew hereafter.

In 1691. being Surgeon Major of the Hospital of *Briançon*, I was brought to see a young Woman, who had a Tumour on her right Cheek for two Years: When it came to Suppuration it was dress'd with a Tent, which left a *Fistula* in the Part, and by degrees the lower Jaw became so fixt, that it had entirely lost its Motion, and her Mouth was in a manner clos'd, insomuch that she was constrain'd to live wholly on Broths or other Liquids. I was told that she had made use of several Remedies without any Success. I

I ordered some very small Pills to be made up for her, one of which she took every other Day for a Month, at the end of which her Cheek was loosened, her Mouth opened, and her *Fistula* quite cured: Which gave the Patient an equal Degree of Joy and Astonishment. This Cure, as it was somewhat surprizing to me, so did it prevail on me to administer the Remedy in several chronical Diseases, which had before eluded the Force of all the usual Medicines, yet it, notwithstanding, gave way to this.

The greatest Part of the *Fistulas*, which happen in Wounds and Abscesses, are the Consequence of Tents, which by turning down the Fibres of the Canal, into which they are introduced, and by their frequent Friction, and continual Compression, unite them, and make them adhere to one another, 'till what is usually call'd a *Callus* be formed.

As there are in all Parts of the Body a great Number of small Vessels, which convey the Lymph and the other Juices :

Juices: The Orifices of the little Tubes, which are contain'd within the whole extent of the *Callus*, and which confining and bearing upon the aforementioned replicated and united Fibres, the round Particles of the Mercury, with which the Lymph is charged, being impell'd against these Fibres, do shock, disunite and relieve them: The nutritious Juice expands itself among the Fibres thus relieved, and reinstate them in their original Form: I think 'tis not easy to explain in any other manner, how Mercury produces its Effect on the *Callus's* of *Fistula's*, than by its Shocking and Disengaging the Fibres which were before replicated and glued together; in which Case 'tis absolutely necessary that the Tent should be thrown aside: Those who will needs have it, that its Virtue consists in sucking up Acids, should not urge that Consideration here, where there are no Acids to be suck'd up; or if they urge that it serves to dissolve the *Callus*, let them give some mechanical Account, how that can be; for 'tis certainly
true

18 *The Hospital Surgeon.*

true that it must act here, as in Obstructions and Tumours, and that 'tis only in virtue of some mechanical Property, that it answers the End in such a Number of different Cases.

After the Peace in 1696, I had the Honour to succeed in the Room of the famous M. *Thouvenot*, who was, 'till his Death, first Surgeon to her Royal Highness; soon after I came to *Turin*, I saw a poor Girl begging on the Steps of St. *John's* Church, in a Place call'd *Cornié*: The many scrophulous Holes in her Face and *Sternum*, render'd her an Object horrible to look at: Besides this, her Neck was full of swoln Glands, and her Hands and Feet were quite deform'd.

I sent for her Home, and prevail'd upon her to take a Dose of my Mercury every other Day, and being willing to see her take the first Dose my self, I order'd some Soop to be brought her, to swallow after it.

She continued the Use of this Medicine for six Months, at the End of which she was entirely cured; so that she

she was married, had Children, became a Widow, and is at this Time married again, notwithstanding the Deformity which her *Cicatrices* carry with them: She is now living, and every one in *Turin* knows her: She was a Surety in Baptism to the first Child it pleased God to bless me withal.

Scrophulous Cases are very difficult to cure, and very few Remedies affect their Cause. They frequently occur in some Climates and Nations, and are not seldom the Inheritance of our Ancestors Irregularities: Their Source is in the Blood, their Seat in the Glands and Joints. They are rebellious to Remedies through their cold Nature, and the Tenacity of their Humour, which is inspissated by an Acid.

It has been long since confess'd, that Mercury alone is capable of working a thorough Cure in these Disorders, whether by liquefying, dissolving, and putting in Motion the Liquors, or by destroying the Acids and vicious Ferments, which occasion the Lymph to coagulate, and by sending Spirits and
Heat

20 *The Hospital Surgeon.*

Heat into the afflicted Members : It is, in short, the only known Remedy that answers every Indication.

The Acid which causes these cold Coagulations, is exceeding difficult to be destroy'd. The Mercury can in its Motion but little affect its soft and glutinous Texture : And for this Reason 'tis a considerable Time before it is able to disconcert it, and break or blunt the Points of the Acids which cause it; however, 'tis past all dispute, that it does it at last; for by circulating with the Lymph in the Articulations, and in the scrophulous Glands, it by gentle Degrees removes the Obstacles which oppose the Course of the Liquids : These Cures are gentle though long. A Salivation would be more expeditious, but then it would be more fatiguing and dangerous.

About a Year after, I had under my Care M. *Dufaure*, a *Frenchman*, married at *Turin*, and well known all over the City. He had been afflicted with a Tumour in the Liver for above two Years, for which he had consulted several

veral Universities ; but all the Remedies he applied were of no Use.

This Tumour was bigger than ones Fist, exceeding painful, and had an external Eminence, by which 'twas easy to determine the Extent of it : His Pulse was irregular, he was troubled with frequent *Syncope's*, want of Sleep, and an universal Uneasiness.

I propos'd to him the Use of my Remedy, as a Dissolvent very fit to dissipate his Tumour : He drank with it a chalybeated Wine, in which *Capillus Veneris* was infus'd : After continuing his Medicines one Month, he was perfectly cured.

This Tumour was schirrhus, notwithstanding it was painful ; which might possibly be from the Compression it occasion'd on the Parts to which it adhered : I have no other particular Remark to make on this Disorder. 'Tis now four or five and twenty Years since he was cured : He has perceived nothing of the Matter since that time, but is now in perfect Health.

Me.

22 *The Hospital Surgeon.*

Mc. *Couturiere*, Milliner to her Royal Highness, my Neighbour and very good Friend, was afflicted in 1703 with a Tumour in her Breast, which in a short time grew to a considerable Size, being very painful and hard, and tending directly to a *Carcinoma*.

She used the same Remedy, and was entirely cured in one Month, having never since felt the least Pain in that Part. I have cured great Numbers both at Court, and in the City, with the same Medicine; and very lately a Lady of the first Rank, but out of Respect I forbear to mention her Name, tho' she has made no Secret of the Cure herself: However if these Complaints are inveterate, the best Way is either to do nothing at all to them, or to proceed forthwith to Amputation: They have ever been look'd upon as Cases of the most difficult Cure, and are deem'd incurable, when ulcerated. They are cruciating and insupportable on Account of their Pain and Stench; and there is nothing but

but crude Mercury, taken inwardly, which by Friction is able to blunt the Points of the Acids that wear away the Flesh in the Parts afflicted. And when it is impossible to attain to a Cure, nothing is more fit to mitigate the Pain, prevent a further Progress, and oppose Corruption and Stench; and to these Ends I have often administered it in such miserable Circumstances.

When our Court attended the Queen of *Spain* as far as the Borough of *Cony* in 1702, I was in returning back, seiz'd in the City of *Fousan*, with a Fit of the Gravel, which was so very violent, that I imagin'd it would cut me off; I voided in the Bath which was prepared for me, small Stones and Gravel with inconceivable Torture, and the Liquor which came away was sincere Blood instead of Urine.

I was brought to *Turin*, where Mr. *Fousage*, at that time first Physician to her Royal Highness, order'd me Medicines for three Months, at the End of which I relaps'd into my former Condition,

24 *The Hospital Surgeon.*

Condition, voiding Stones and Gravel with excessive Pain.

At length I began to take my Dissolvent into Consideration ; imagining, that these Stones were form'd and conglutinated by a thick Lymph, which if it could be render'd fluid, would prevent any further Concretions of this Sort ; and to this End I made use of my Remedy : The Consequence was, that all my Symptoms ceased, and I was cured, having from that Time to this felt not the least Touch of my Complaint. 'Tis true indeed, that at certain Seasons I take a few Doses of the Medicine, which I believe secures me against a Relapse.

I am the first to whom I ever administered this Remedy in such a Case ; but I am not the last : I have given it since to many Persons under the like Complaints, and always with good Success. It is not less efficacious in Retentions of Urine from a viscous Gelly. *M. le Baron de Chainaye Nisar* has experienced it to his Satisfaction. For four Years together he could not make
Water

Water without the most exquisite Pain, and great Striving: He took this Remedy, and in a short Time he urin'd with a full Stream, without any Pain at all: He look'd upon the good Success of the Medicine as a Prodigy, having try'd a great Number of other Things to no purpose. He return'd Home overjoy'd, and took a good Stock of the Pills with him the last Autumn 1723. *M. le Chavelier de Morete* could make no Water for five Days together without the Assistance of my dear Friend *M. Ciconigni*, and two other Physicians of great Note: That Gentleman had the Humanity for his Patient, to desire him to send for me: He took my Remedy, and made Water that same Day.

I have a fresh Case of the like Nature, where the same Remedy was given with the same Success. But these Narratives lead me too far out of the Way; so I shall suppress this with many others, notwithstanding a Number of Instances carry along with them the Merit of Persuading; for

C

a single

26 *The Hospital Surgeon.*

a single Cure might be imputed to mere Chance.

It appears then that crude Mercury is serviceable in the Gravel, that it brings it away, and prevents stony Concretions by destroying the Viscosity of the Lymph, which conglutinates the tartareous Particles of the Blood.

These Viscosities occasion much the same Symptoms as the Stone itself, and if they do not produce so exquisite Pains, they are however frequently attended with a Suppression of Urine, by stuffing up the Tubes which should convey it into the Bladder : In such a Case, as well as in many others, Mercury by the Rotundity of its Particles, and its Motion, is capable of breaking, dividing, dispersing, and consequently subtilising and destroying the Coagulation of the Lymph, and that with great Speed ; and at the same time it blunts the Points of the Acids, and forces them to let go whatsoever they are connected with ; thus every Thing is restored to its natural Figure.

Mc.

Mr. Campagnole, Hostess of the *Woman without a Head*, one of the most noted Houses of Entertainment in *Turin*, is subject to a cruel Cholick; this Disease has reduced her to the last Extremity for these three Years. In 1722 she was seiz'd with this Malady in the middle of the Night. I living in the Neighbourhood, she sent for me: I found her in a deplorable Condition, and gave her a double Dose of my Mercury; soon after, her tormenting Pains ceased, and before Morning she voided by Stool a Pail full of Excrements and Water: The next Day she voided another Pail full of Water, and so was entirely freed of her Complaint to her very great Surprise: For in the last Fit before this she was tortured a whole Month between Pains and Remedies, yet this Medicine made all quiet in a few Minutes after it was taken.

The prodigious and hasty Evacuation in this Case, was the Effect of Purgatives, but Mercury had its share in contributing to it, by breaking the

C 2

Humours,

Humours, and rendering them more fluid, and fit to be discharged. This Woman had all the lower Belly stuffed with viscous and acid Humours, which occasion'd a Tension and Irritation in the Intestines. The Peristaltick Motion of the Guts was weaken'd and deprav'd, which nothing could better re-establish than Mercury, by the rolling Motion of its Particles: It at the same Time blunted the Points of the Acids which had occasion'd convulsive Twitchings in the Parts: And the Crispation of the Fibres being removed, the several Matters contain'd within the Guts, did naturally take the Road of the *Anus*, following the Mercury, which by its own proper Weight is ever determin'd downwards.

Mercury, when it is receiv'd into the Stomach, is blended with whatever it meets with there; and as the lacteal Vessels imbibe whatever is subtil enough to enter their Orifices, the more volatile Part of the Mercury is taken up by them, and convey'd into the Blood, which it renders more fluid and

soft;

soft ; and what remains in the Intestines, takes downwards, and pursues the Course of the Purgatives ; opening and subtilising the Acids and Viscosities which it meets with in the Way, and carrying off whatsoever is vicious, or unserviceable to the Œconomy, without meddling with any Thing good or necessary : That this is Truth, appears from the Patient's being not in the least weaken'd or discompos'd by these immense Evacuations.

In 1710 One M. *de la Pierre*, Governor to a German Lord who was at *Hodemie*, but whose Name I cannot remember, had an inveterate Itch which eluded the Force of all the Medicines he could hear of in *France* and *Holland*. He took of my Mercury, and without the Assistance of any other Remedy, he was perfectly cured in three Weeks : He went away very well satisfied, and the next Year he wrote to me to send him the Medicine to the *Hague*, one of his Friends being under the same Misfortune.

M. Carret, my very good Friend, Commissary of War in the Armies and Hospitals of *France*, who had the Superintendency of the Hospital of *Oulx*, at the same time that I was Surgeon Major of the same Hospital, being at *Valence* on the *Po* in 1710, was afflicted with an ill-favour'd red *Teter*, which spread over half his Face, and was elevated above the Surface of the Skin the Thickness of a Finger.

Several Remedies were recommended to him, which he refus'd, saying, I shall go shortly to *Turin*, where my Friend *Belloste* has a Medicine that will infallibly do the Business.

He came to me as soon as conveniently he could, and I gave him my Mercury; which was so speedily effectual, that he perceiv'd himself sensibly amended after the first Dose; after the second the *Teter* was apparently diminished, and after the fourth it was hardly to be discern'd. However he continued the Use of it; but after the fifth Dose, there was not the least Footstep of it remaining: He is now
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at *Paris*, and is ready to witness to the Truth of what I write.

The same Thing happen'd with no less Expedition to *M. le Comte d'Argue*, a *Bavarian* Gentleman. As he was returning from *France*, where he had been for his Health, he was seiz'd in *Savoy*, with Pains in his Shoulders, and a large Parcel of Pustules which cover'd his whole Face, and render'd it extremely deform'd; this was in 1723: He sent for the very learned *M. Ciconini* to advise with him, whether it would be better to put himself under a Course of Medicine at *Turin*, or to return to *France*. Our judicious Physician recommended Me, and my Remedy, which he thought sufficient to extricate him from the Difficulty he labour'd under: After twice taking it, he found his Pains were abated, and his Pustules shrunk up; and after the fourth Dose they all disappear'd, to his great Astonishment, who thought it no less than a Prodigy. He continued the Repetition of it some short Time, and stock'd himself with

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32 *The Hospital Surgeon.*

a good Quantity when he went away.

The speedy Dispatch the Mercury made with this tumify'd *Teter*, is an undeniable Proof of its mixing with the Lymph. It operates in the same manner in *Teters*, Itch, and Pimples of the Face and other Parts of the Body, as it does in schirrhous Tumours, *Scrophula's*, *Carcinoma's*, *Wenns*, &c. it removes the Stoppage of the Glands, by destroying the Acids which caus'd it; and the Lymph conveying it to the Pores of the Skin, its volatile Particles fly off with Rapidity by insensible Perspiration; and rubbing against the Acids which lurk in the cuticular Pores, they carry them away with them. Thus are the fibrous *Mamillæ*, which were before compress'd and render'd inactive, restor'd to their pristine Form, Elasticity, and Office: The Skin grows clear, and the Orifices being unlock'd, Perspiration goes on as before.

Although the Disorders, which I have described, were attended with Variety of Symptoms, yet were they all produc'd

produc'd from the same Cause. The softer Preparations of Mercury, as *Ethiops Mineralis*, and the Powder of *Algaroth*, are serviceable in external Application, as they exhaust the Acids, open the Skin, and so work a Cure. But a Salivation would in all Likelihood ensue, should any of the acid Particles, when blended with the Mercury, re-enter into the Road of Circulation: This makes me affirm that crude Mercury taken by the Mouth, is more effectual, certain, and expeditious.

In 1719, my Adjutant's Son in the Hospital of *Briançon* was sent me to *Turin*, afflicted with an universal Leprosy; his Head was in a sad Condition, and his whole Body covered with white Scales: I shew'd him in these Circumstances to some of my Brethren, one of which was M. *Calcan*, Master Collegiate Surgeon, who enter'd upon the Office of *Syndic*, since I was made *Prior* of the new College founded by the King.

34 *The Hospital Surgeon.*

I kept him in my House, and he eat at my Table without any Distinction: He was not confined to his Bed or Chamber: He took a Pill every other Evening towards Bed-time. At six Week's End I shew'd him to the same Gentlemen, with his Head and Neck clean as a Pearl, and perfectly cured; tho' he walk'd abroad, all the City over, every Day during his Course.

The Leprosy and Pox are Sisters, and of the same Parentage, according to the Opinions of most learned Men. Mercury has at all times been acknowledged for the Specifick in such Diseases, since it was first discovered and administered. It has certainly an absolute Power over these Ferments: The more desperate the Case, the more Vigour does the Remedy exert to destroy it: They are a kind of *Hydra's* which this *Hercules* delights to quell. 'Twere needless to illustrate its mechanical Operation upon these Poisons: It is well known and visible enough, and can never be called in Question. This

was the first Leper I ever had under my Care: This Disease tho' so very formidable, gives way to Mercury rightly prepared, as readily as the slightest of them all.

In 1721. I was commanded by her Royal Highness to attend Madam *la Comtesse Busquet* in the City of *Equiere*, who had been confined to her Bed for four Months by a violent and painful *Sciatica*. She could not stir in the least, without giving her self mortal Agonies, in spite of all the Care and Skill of her Physician *M. Gofe*. This Lady being constrain'd to void her Excrements under her, there was Danger that a Mortification might seize her hinder Parts; wherefore without delay I propos'd to her Physician the use of my Mercury, which he very readily came into.

She had not taken above three Doses, before the Violence of her Pain was over; and after the fourth, she felt no more of it: After the seventh she left her Bed, and began to walk: The Abundance of Phlegm which this Me-

dicine discharged by the first Doses surpriz'd both the Patient, and her Physician. The Patient wonder'd that she felt an Abatement of her Misery in Proportion to the Evacuation, which did not in the least weaken her; and the Physician was at a loss to account for such extraordinary Success, otherwise than by Enchantment; which occasion'd him to express his Surprise to me in a Letter full of Respect and Esteem. The Letter was read to her Royal Highness by my dear Friend *M. Ciconigni*, who was himself not a little transported at the speedy and salutary Effect of so simple a Remedy, as well as at the tender and obliging Expressions of the Patient and the Physician.

The Gout in its Infancy, the Rheumatism, the *Sciatica*, and all Diseases of this Nature, are to be cured by swallowing crude Mercury, as frequent Experience has assur'd me on many Occasions: They are all of the same Nature, tho' they pass under different Names, and affect different Parts of
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the Body: As one Cause produces them, so will one Remedy destroy them; and by that very kind of Mechanism which I illustrated, when I spoke of Percussion, Friction, Shaking, Dislodging, and taking off the Points of Acids.

The expeditious Action of Mercury on such minute Bodies cannot, in my Opinion, be otherwise accounted for; since nothing has so quick a Passage into the Blood, nor is convey'd so soon to the Parts afflicted; this happening several times in the space of a natural Day. On this Score it comes to pass, that what it has begun in its first Frictions, it finishes in its subsequent ones. I grant that it goes off in Perspiration, and escapes partly by Stool; but then by repeating the Dose, the Operation is continued on without Interruption; otherwise the Acids which take up their Residence in the Pores and Membranes could not be dislodged, and broken to Pieces, as it happens in *Sciatica's* and Rheumatisms; their Points standing on end, and being no
ways

ways interwoven with any Substance that can skreen or defend them; when the nutritious Juice, comes loaden with Mercury to the Membranes penetrated, and as it were larded with these sharp keen *Spiculæ*, the small round Particles of the Mercury expand themselves over the Membranes, and being of a requisite Solidity, do by their rolling Motion, shock, tear to Pieces, and destroy the aforesaid Points, which afterwards regurgitate into the Veins. I can form no other Idea of the speedy Termination of this sort of Diseases: Those who have an Understanding more extended than mine, may possibly give a more rational Account of the Matter.

The Wife of M. *Ressant*, a Bookseller in *Turin*, aged about 33, was sent to her Husband from *Briançon*, under a Complication of Diseases. She had been under the Management of the best Physicians in *Briançon* for four Years. Among other Complaints, she had a small Fever, a Difficulty of Breathing, a Pain in her Stomach, a
very

very stinking Breath, a sorry Complexion, and a monstrous Swelling of her right Thigh and Leg ; for which last Malady she had used diverse Sorts of mineral Waters without any Benefit, both by way of Baths and Fomentations ; in a Word, she was pronounc'd incurable. Her Husband finding her in so miserable a Condition, had so much Confidence in me as to commit her entirely to my Conduct ; and indeed it was with some Reluctance that I undertook this chronical Disorder.

However, having been convinced by a great deal of Experience, that in these desperate Cases especially, Mercury gives Proofs of its Force, Virtue, and Superiority above all other Medicines ; I no longer remain'd in suspense, but gave her my Remedy without any other Preparation.

The first Doses had some comfortable Effects upon her ; most of her Symptoms ceased ; her Pulse was much mended, the Pain of her Stomach and the stinking Breath were no longer perceiv'd ;

ceiv'd ; the Thigh and Leg were less pained, and their Size was somewhat abated. Thus she went on for sixteen Doses, when her *Menses* oblig'd her to desist ; which, when they were over, she resum'd her Medicine, and without any Conflict was this formidable Coagulation of Humours dissolv'd ; and the Liquors recover'd their Fluidity after two and forty Doses of the Mercury. The Thigh and Leg grew supple, the coagulated Matter now made fluid, returning with the Mercury into the Blood : In short, in the Month of *May* the present Year 1724, the Mercury had the Effect of Frictions on this Patient ; it excited a Salivation ; with this Difference, that it was so exceeding mild as scarcely to warm the Mouth : This was the only Time I ever knew it produce such a Consequence, though I have given it above six Months together.

Here is sufficient room to admire the salutary Effects of Mercury, which one way or other will infallibly destroy every Thing that is capable of afflicting the Body.

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To enter rightly into the mechanical *Rationale* of this Matter, it should be observ'd that in the Disorder of the Thigh and Leg, there was no Extravasation. The coagulated Liquors were entirely contain'd within the Glands, and the external Vessels; A Proof of which is, that notwithstanding the Size of those Parts, the Patient could still walk; the organical Parts being unaffected. The Weight and the Pain which the Tension occasion'd were what chiefly incommoded her.

A Dissolution being once made in the Vessels and the Glands, it is natural enough that the Liquor, having recover'd its Fluidity, should re-enter the Vessels, mix with the other Fluids, and pursue the Course of Circulation.

But the subtile Parts of the Mercury being intimately mix'd with what was dissolv'd, caused those Fluids to ascend upwards, so that they were receiv'd by the Vessels of the Throat, which became distended therewith, and the Orifices of the Salivary Canals
were

were strained and dilated, and afforded a Passage to the separated Humours; and then the Thigh and Leg diminished considerably.

This salutary Flux lasted about eight Days, and re-establish'd the Gentlewoman in such a Condition of Health as surpriz'd her: She is now actually under my Management, and I hope to reduce her Thigh and Leg to their natural State.

If crude Mercury did imbibe Acids, as many Persons have fancied; it must in this Case have been sufficiently stock'd with them, to have made Havock with the inward Parts of the Mouth in the Discharge; whereas nothing more was perceiv'd than a small Heat. In these Diseases the morbid Particles are not so pungent, keen, and corrosive as the Acids in Venereal Cases are, which make the Bones carious, and eat away the Flesh, without any Assistance from the Admixture of other Matters.

The thick viscous Matter which nourishes the Hair being abundantly increased

increased through the Obstructions form'd in the Skin where it is planted, caused it to grow in such Plenty, that the whole Leg and Thigh were perfectly cover'd therewith: On which Score I look upon the Malady of these Parts to have arisen from an exceedingly tenacious Viscosity, stagnating in the capillary Vessels and Glands of the Skin, which being inconceivably numerous, at last form'd so considerable a Substance.

It may then be taken for granted, that Mercury, sooner or later, penetrates into, and breaks the Connexion of these Matters; that it disengages them from the Acids which embarrasses them, and so restores them to their original Fluidity.

If we consider attentively, what Mercury has done in one Cure, we shall be able to judge of its Effects in all others, though of a different Kind; and we must esteem it the Favourite of Nature, which in such a Variety of Operations and Productions, acts by the same Mechanical Laws. I have
remark'd

44 *The Hospital Surgeon.*

remark'd also from the Effects which Mercury produces in so many different Subjects and Diseases, that its Way of acting is constantly one and the same: As Nature is inimitable in her Works, so is Mercury in its Operations.

I have at this Time under my Care, Diseases that are inveterate and of very difficult Cure. I administer this same Remedy in them all; and from the Day I begin with it, I form Hopes of a favourable Issue, though it may be some Years first: However all the known and usual Means have been already apply'd to no Purpose.

Respect forbids me to Name one of my Patients, and some others Discretion will oblige me to conceal. But let the Reader judge of what may be done from what has been done: The Cures already related, have their Merit, and those I shall relate hereafter, will have no less. And now I think I have said enough to give an Idea of the Effects of this admirable Remedy.

The first Wife of M. *Rousseau*, in 1712 was afflicted for near four Months together

together with several Disorders. She was visited by many of our Physicians, who after they had carefully examin'd her Symptoms, were of Opinion that a *Solium* had brought her into a Consumption; and this because she vomited constantly every Day, a little while after she had eaten. These Gentlemen agreed that my Mercury was the only Medicine which could be of Benefit to her.

The very first Dose took off her Vomiting, and the rest, which were twelve in all, entirely recover'd her.

Cases often occur, where 'tis next to impossible that a Physician of the greatest Capacity, should not be mistaken. A Girl who wove Hair for my Perriwig-Maker in 1712, being about 15 or 16 Years old, was for three Weeks together blooded and purged, besides other Remedies and Operations, and all to so little Purpose, that at last she was seiz'd with a violent and frequent Hick-up, which prevented her from swallowing or retaining any Thing in her Stomach. Her Physician

cian took his leave of her, and desired her Mother to send for a Priest to give her the Sacraments. In this Conjunction M. *de la Touche* came to me and desired me to see the Girl. I did so, and after examining her, and feeling her Pulse, I thought I perceiv'd in her Eyes some Symptoms of Worms. I took M. *de la Touche* Home along with me, and deliver'd to him a Dose of my Mercury, with Directions to give it her by Degrees, in four small Pills, with a little Wine, and that forthwith. The first Parcel she took stopp'd the Hick-up, and she swallow'd the others with Ease; a little after which she vomited up a Worm as thick as one's Finger, and half an Ell long, with a big Head: The Persons who were about her, to my great Vexation, threw it into the House of Office: She was perfectly cured in a few Days.

Many Physicians look upon Worms of the Body with a Kind of Indifference: They'll tell you, they are domestick Animals, and serviceable in consuming certain Superfluities in our Bodies.

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But after all, the more they multiply, and the more they increase in Bulk, the more Nourishment they do require. If in such Cases a slender Diet should be enjoin'd, they would entirely consume it ; and if that were too little to suffice them, they would prey upon the Parts wherein they are contain'd.

All these Things consider'd, it cannot be deny'd that 'tis best to prevent their Increase, and to get rid of them as soon as may be, and drive out of the Intestines, such Harbingers of Corruption as are nourish'd at our Expence, and whose Lives will be productive of our Death.

Worms of the Stomach and Intestines are destroy'd by Mercury ; 'tis to them a downright Poison : It not only kills them, but destroys the very Seeds of them too : This all agree to, who have written of Mercury ; and Experience vouches for the Truth of it.

Almost every Thing is full of Worms : Our Food abounds with them ; their Seeds get into our Bodies a Multitude

titude of Ways. They float in the Blood and other Liquors, in all Ages, Sexes, and Constitutions. They devour indifferently what they meet with, be it good or bad. But the *Solium* feeds on nothing but Chyle; and therefore a Consumption is inevitable where this Creature resides.

The Worms of the Stomach and Guts deposite Seed and Excrements, which mixing with the Chyle are carried into the Blood, causing Fevers of an uncommon Nature, whether by Corruption, or by the Coagulation which their Acrimony occasions ~~in the~~ Blood.

In all these Cases, I believe there is nothing which answers the End better than Mercury, on account of its separating from the Blood, and carrying away along with it whatsoever is noxious: It promotes Perspiration, and by its Percussion, and the Rotundity of its Particles, dissolves, separates, and subtilises all Manner of Coagulations, which may be reckon'd the Source of most Fevers, besides many other Disorders.

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In short, be they Worms, a wrong Use of natural Things, or an ill chosen Food, that have introduced into the Blood such Particles as are apt to excite febrile Fermentations there; or if an Effervescence be kindled up in the Blood for Want of due Perspiration; Mercury overcomes all. When Mercury is well kill'd, and its Parts are divided as much as possible; and in this Condition is convey'd into the Stomach, it is suck'd up, and as it were devour'd by the lacteal Veins, and convey'd into the Mass of Blood.

Mr. *Lewenhoeck* has observ'd, that the Blood consists of globular Particles; and so likewise does Mercury: Wherefore 'twere impossible they should enter into such Contact with each other, as to be link'd together; for the Globules of Mercury are extremely smooth.

The Motion of the Blood, and of the Lymph that accompanies it, causes these small Globules to strike one against another; by which Shock reiterated, all the Particles both of the Mer-

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cury

cury and the Blood are broken, separated, and multiplied to Infinity: 'Tis by such a Manner of Acting, that the Coagulations of the Blood are destroy'd; that they become more subtile and fluid, and are less dispos'd to obstruct and embarrass one another as they move in the smallest Vessels: The Globules of Mercury united with the Lymph, being exceeding smooth, and containing, in Proportion to their Bulk, a very large Quantity of Matter, do insinuate themselves into all Places where the Rapidity of their Motion carries them; forcing all Obstacles which oppose their Course, and dispersing every Thing that is unnaturally united; which by the Motion it receives from it is hindred from reuniting, and thus is it hurried away to some or all of the Emunctories, according to the Inclination of Nature, or the Disposition of the Subject.

These Particles, being, as I said before, united with the Lymph, render it more fluid, penetrating, active, sweet, and balsamick, and by Consequence more

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more fit to increase the nutritious Juice in the several Parts of the Body, and more proper to repair the Losses it has undergone through the Violence of Diseases; taking away at the same time, the fatal Causes which produced them.

If what I have observ'd of Mercury be true, it must be acknowledged, that it has in it Nothing that is corrosive or vicious: If it be capable at any time of assuming such Qualities, it must be when it is divested of its natural Figure and Motion.

It must therefore be the Violence of Fire, which altering the Figure and Motion of Mercury, wherein consists its Force and Virtue, renders it corrosive; which is the Case when it is incorporated with Salt and Vitriol to make corrosive Sublimate.

If Mercury may be judged of from its Effects, surely crude Mercury has the best Title to be call'd *Mercurius dulcis*; for that which is prepared with Fire, and goes by that Name, is capable of uniting with Acids in the

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Body,

Body, and thereby forming an Acid. So that not to incur the Danger of raising a painful Salivation, it must be given but in small Quantities, and that seldom : I have been a Witness to the terrible Consequences of it upon a Lady of Distinction who fell a Sacrifice to the Remedy and her own Opinion.

When crude Mercury enters into the Body by Frictions or Fumigations, it mixes with the Lymph; but then it penetrates also into the Veins and Arteries.

Such a Collection of globular Corpuscles striking against the arterial Blood, with a Direction contrary to the Course of it, acts upon it in the Manner of a Bank or Damm.

If the Blood and Spirits yield to such a Shock, their Motion must of Necessity be much weaken'd, and even suppress'd as far as the Friction extends; so that they will inevitably stand still, or move backwards: This Conflict can be of no Service to the Patient, but must produce such Symptoms as always attend an impeded Circulation: I have beheld too many Instances of such sad Cases.

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If it enters the Pores of the small nervous Fibres which terminate at the Skin, it will by its Volatility penetrate into the Trunks of the Nerves, and oppose the Course of the animal Spirits, thereby occasioning a Palsy.

These Effects are not produced by Mercury, as crude Mercury: 'Tis the Manner of applying it which causes it to oppose the Course of the animal Spirits, and occasions these Extravagancies, besides many more which I forbear to name.

'Tis plain then, that there is a Difference between transmitting crude Mercury thro' the Pores of the Skin, and giving it at the Mouth at certain Intervals; for in this latter Way, it intimately mixes with what it finds in the Stomach and Chyle; it enters the Blood, it associates with the Lymph, it follows the natural and voluntary Motion of it, it facilitates its Course, and enlivens its Motion, it renders it more-fluid, subtile, and fit to pass: It destroys the Obstacles which oppose its Passage; and then uniting with it,

they penetrate every where : All this is brought about with the utmost Gentleness and Expedition, without Constraint, Agitation, or Tumult ; and yet its Operations are divine and surprizing.

Acid Spirits injected into the Veins, occasion terrible Symptoms, yet they are serviceable when taken in by the Mouth.

The Viper, which by sending its Poison into the Blood through a Puncture of the Skin, excites such fatal Symptoms, is of no ill Consequence if eaten, but on the contrary is corrected and render'd wholesome by the Ferment of the Stomach.

Some Persons have taken upon them to run down the Use of crude Mercury, and render it odious, by bringing upon the Stage the Accidents which attend the Workers in mercurial Mines.

Mr. *Lemery* is of Opinion, that the Palsy which sometimes attacks these People, is produced from the Sulphurs which arise from the Mercury ; which entering the Pores, do fix in the Nerves, and cause this cold Disease,

ease, by stopping up the Passage of the animal Spirits.

If his Notion is right, there is then great Reason indeed to apprehend bad Consequences from Frictions and Fumigations.

It is not absurd to believe that those Workmen, being continually surrond^d with the volatile Vapours of Mercury, do suck them in with the Air at their Nostrils; presently after which they are elevated till they meet with Opposition from the internal convex Part of the *Cranium*, being not able to penetrate or pass through its Pores, and then they fall down again, like Water in a boiling Pot, when stopp'd by the Lid. These Vapours having at length acquir'd a Bulk, the small Globules drop down again by their own proper Weight towards the *Basis* of the *Cranium*, compress the Nerves in their Origine, and so produce the Palsy. The same Thing happens to *Gilders* for the same Reason, but more frequently; for they make Use of Mercury over a Fire, which elevates

56 *The Hospital Surgeon.*

it more easily, so that they breathe in the very Substance of it.

Thus it appears, that this is not the Effect of any ill Quality of Mercury, but an Accident produced by the Compression of another Body.

At the time that I was Surgeon Major of the Hospitals of *Briançon* and *Oulx*, we had at a favourable Season of the Year, many pocky Patients confin'd to the Use of the Grand Remedies; they were close lock'd up in their several Cells Day and Night. I could not observe that the Boys who were appointed to attend them, and who constantly slept with them, did ever receive the least Inconvenience by breathing in the mercurial Vapours.

I had a Captain under my Care at *Briançon* in a *Volvulus*, whom I prevail'd upon to swallow down two Pounds of crude Mercury, which remain'd six whole Days in his Body, without doing him any manner of Harm: And it is observable, that such Persons as have leaden Balls lying in their Limbs for many Years,
and

and often for their whole Lives, never feel any Inconveniencies on that Score.

But after all this, to set about to convince Mankind that crude Mercury is no ways mischievous, is not an easy Task. Many believe it a corrosive Poison: They'll tell you, it is the Cause of Ulcers of the Throat in Salivations; and if they speak so favourably of it, as to grant that it is not corrosive of itself, yet will they maintain that it becomes so when blended with the venereal Acids: This Opinion has been receiv'd and advanc'd by very famous Authors.

I think however, that the contrary Opinion may easily be supported by the Help of a little Reflexion, provided Prejudice be absolutely set aside.

The Ulcers which afflict the Throat in Persons under Salivations, proceed, according to the Notion I have of the Matter, from the Acids contain'd in the pocky Ferment: Mercury shocks it, dislodges it, sets it in Motion, and conveys it along with the Lymph, 'till it has procur'd it some favourable

Issue by the Way of a *Crisis*, sometimes by the Mouth ; at other times by Stool, Urine or Perspiration.

It must be consider'd, that in Salivations the acrimonious and corrosive Acids of the *Virus*, which were distributed throughout the whole Mass of Fluids ; as likewise those which were congested in Nodes, Pustules, Glands, Cancers, or Ulcers, are all convey'd and conducted, by their several Tubes, into the salivary Canals, so that they may be discharged at the Mouth ; in which consists a Salivation. These being thus reunited, and passing all thro' the same Place, 'tis natural enough that they should make Impressions on it, and that such delicate Parts as the Throat and the Mouth, should be lacerated, cut and ulcerated by the Quantity of these keen, sharp, and corrosive little Bodies, without the Mercury's having any Share in the Matter, more than that of having set them in Motion, in order to the obtaining their Discharge.

Mercury,

Mercury, when sent into the Body by Friction, gives to Part of the Liquors a different Turn from what they had before ; as I have already remark'd : This Stroke of Retrogradation, which acts from the Circumference toward the Centre, subtilises the Lymph, elevates it upwards, gives it a violent and rapid Motion, and determines it towards the Head and Throat, which becomes swoln by such an Amassment of Lymph pour'd in upon it from almost all Parts of the Body ; and it being too much to be contain'd in the Cavities of the Vessels, the Orifices of the salivary Vessels are by the Effort of an irresistible Tension, open and dilated, and so yield a Passage to this Abundance of the lymphatick Humour. But the Mercury having not circulated according to the natural Course of the Lymph, having only been elevated together with it, it is impossible that it should by any rolling Motion, break or destroy the Points of the Acids, which passing by the Throat and Mouth in an unalter'd

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Condition,

Condition, do there occasion very troublesome and painful Ulcers and Lacerations.

The only Motion which the Lymph and Mercury have on this Occasion, is a simple Sublimation upwards, which stops there ; so that should the salivary Canals be obstinately occluded, the Patient must be suffocated. It appears then, that in such a Conjunction, the Mercury and Lymph are as it were in a State of Rest ; that the subsequent Evacuation, and the running off of the Lymph and Mercury makes no Alteration in the Order of their Situation ; the Action, tho' violent, terminates at the Throat. If Mercury destroys the Points of Acids, it must roll along and circulate peaceably with them, by a continued and reiterated Motion ; which cannot be brought about by Frictions and Fumigations, nor by any Preparation of Mercury, be it what it will. When the *Crisis* after Frictions is determin'd by Stool or Urine, the Mercury would make fine work if join'd with Acids ; Ulcers of the *Anus*,
Bladder,

Bladder, and *Urethra* would be the inevitable Consequences of such a Union, which however do never happen.

If crude Mercury were capable of uniting with Acids, bad Symptoms would appear after Frictions, by which so large a Quantity is made to enter the Body. Those to whom I have given it by the Mouth for above six Months together, as in scrophulous Cases, where Acids abound in extraordinary Cases, would, if such a Union were possible, have undoubtedly been sensible of some Irritation, Heat, or Excoriation; and yet I never heard them complain of any such Things.

Mercury, in order to its being sublimated, must be in a State of Rest, so that the Fire which is under it, may lay hold on its round Particles in order to raise them aloft together with itself, which is the Case with Mercury as made use of by Gilders.

When crude Mercury is taken by the Mouth in Pills, altho' its Particles are exceedingly subtile and divided, notwithstanding the Purgatives with
which

which it is mixed, it is very speedily communicated to the Liquors, it swims in a Fluid, and is in perpetual Motion; on which Score it cannot be sublimed: The Warmth of the Body is a Spur to it, animates and increases its Motion, and causes it to penetrate every where; it never quits the Liquors with which it is mix'd, but in getting to the E-munctories.

Men of very great Skill, who have no consummate Knowledge of Mercury, are of Opinion that some Pounds of it may be taken at the Mouth, as in a *Volvulus*, without occasioning any ill Consequence; but that it is very dangerous to take only a few Drams of it, because that then it may sublime by the Heat of the Body: This Opinion has been receiv'd by a great Number of Persons, and yet nothing can be more false.

M. *le Duc*, a Physician, whom I mention'd before, observ'd at *Smyrna*, that most of the Women that were desirous of looking handsom, fresh, and in good Plight, did frequently
swallow

swallow two Drams of crude Mercury without any Mixture.

When some Pounds of it are swallow'd, if it meets with no stop in the Intestines, it quickly passes through, retaining the same Weight it had when it was taken. When it is swallowed in a small Quantity, it remains a longer time in the Body, it shocks, detaches, breaks, and drives into the Intestines whatsoever it meets with in the Stomach, that is greasy, slimy, viscid, acrid and acid: It acts in the same Manner in the Intestines, mixes with the Substances, and rolls along with them, so that it cannot be sublimed, but escapes out just the same as it was taken in, carrying along with it whatever is capable of rendering the Blood acrimonious, altering the Ferments of the Stomach, or causing a bad Digestion.

It appears then, that great Advantages may be obtained from the Use of it, and that those Persons are very much in the Wrong who conceive Prejudice against it; such a one, and such a one, they

64 *The Hospital Surgeon.*

they say, were attack'd with such and such Complaints upon the Use of it, therefore 'tis undoubtedly bad and dangerous : And some there are who are frightened out of their Wits at the very Name of it ; and would give themselves over for poisoned, should the least Quantity of it enter their Bodies.

This Error is receiv'd and cherish'd by a Set of prejudiced Persons, who, though otherwise well qualified, judge and determine concerning the Effects of Mercury, without distinguishing as to the best and worst Manner of using it ; which notwithstanding makes a very considerable Difference.

If what has been said above, and what shall be said hereafter, be consider'd with a little Attention, it will appear that Mercury ought to be taken by the Mouth, just as Providence has given it us, if we would feel the Benefit of it ; or mix'd with gentle Purgatives.

That all the extravagant Effects of it in Frictions and Fumigations, are produc'd no otherwise than by an unnatural

natural Motion which it gives to the Spirits and Liquors, as I have already explained.

That it can at no Time become corrosive, but when the Action of Fire causes it to lose its Form and Motion; for then it may be link'd and loaded with Acids, and constitute by such a Mixture, a Sort of Sublimate.

Tho' crude Mercury is infinitely divisible, yet its most subtile Parts, even in Vapour, do ever retain the Rotundity of their Figure; they can never, without the Violence of Fire, become pointed, hooked, or keen; therefore they can neither hook, or be hooked, as long as they retain their spherical Figure, and continue, as they always do, smooth and polire; and the Heat of the Body is not sufficient to produce any Alteration on even the most fine and subtile of its Parts.

In the Ebullition and Fermentation which it undergoes when it is mixed with, and wrought upon by Spirit of Nitre, *Aq. fortis*, and other Spirits, its Parts are only divided and render'd imperceptible,

perceptible, their spherical Figure is no ways destroy'd; a Proof of which is, that these Spirits are soften'd by the Mixture, and render'd less pungent and corrosive; which shews that crude Mercury may be with great Justice called *Mercurius dulcis*.

I might satisfy my self with relating the salutary Effects which crude Mercury has produced within my Knowledge, without giving my self the Trouble of explaining the Mechanism of its Action, in which 'tis like I may succeed but poorly, having no chymical Principles to guide me, but laying down, according to mere Nature, what has occur'd to my Conception. However, I was of Opinion, that by shewing in what Manner it acts in the Body, I might dispel the Fears that have been rais'd of it, so that it might no longer be taken for a Poison, but for the most gentle and sovereign of all Remedies. Thus I do my utmost in the Justification of Mercury; and to make it appear, that it is a Friend to Nature, and a capital Enemy to Diseases,

Diseases, and all Kinds of Corruption; that by an admirable Mechanism, without incorporating, or being confounded with them, it dissolves, absorbs, spoils, drives out, destroys and corrects all vicious and heterogeneous Matters; that not only taken by the Mouth, but worn externally, its Emanations are capable of securing the Body against malignant and infectious Air, of what Kind soever it be, without Exception.

All Authors who have writ of the Pestilence, believe its Cause to be a Coagulation of the Blood; if this Opinion be true, what Remedy can be more proper, than crude Mercury?

M. *le Begue*, in his Treatise on the Pestilence of *Marseille*, says, that it has its Original from a Multitude of the Eggs of Worms which infect the *Saliva*, the Food, the Chyle, the nervous Juice, and finally, the solid Parts; that the Heat of the Stomach hatches these Eggs, and then the young Worms do greedily devour a good Part of the Aliments, by which they increase to a certain Size; and that then

then they excite the first Symptoms of the Pestilence.

These Worms are carried along with the Chyle, into the Blood, where they hinder Circulation.

According to this System, nothing can be more proper to destroy these Worms, together with their Seeds, than Mercury. In a Translation of *J. James Scheuchen*, he proposes *Ethiops Mineralis*, a Preparation of Mercury, in the Pestilence: He says, that according to the famous *M. Boyle*, the Pestilence seldom attacks Persons who live in the Neighbourhood of Mercurial Mines. Upon Consideration that Mercury is extremely volatile, and that it transpires more than any other Metal, I am of Opinion that a Body, prepar'd with my Mercury, or some other like it, provided it also carried about it little Bags of Mercury on the *Sternum*, and near the Emunctories, would be defended from infectious Air by the Atmosphere of mercurial Vapour surrounding it: If we examine well into the Matter, this is no other than
one

one Vapour, or one Air overpowering another.

If there are Eggs in the Case, as in all Appearance there are, they must be round, as well as the volatile Particles of the Mercury, and so they cannot unite, or be link'd together; notwithstanding the Globules of the Mercury are capable of destroying or driving out those of the Worms. In the Collision of these small spherical Bodies, those of the Mercury having the greatest Solidity, must break in Pieces or dissipate the others.

Those who approve not of these Reasons, may have recourse to Antipathy, and then they'll be sure to meet with Matter enough to employ their Wits upon.

These mercurial Vapours do likewise keep at a Distance from the Body the contagious Particles of the Small-Pox. I know several Persons who make Use of no other Preservative: Why then may it not have the same Effect on the pestilential Vapour? They differ but in regard to More or Less.

The

The *Arabian* Physicians have confounded these two Diseases together, and many others have followed their Opinion. A great Number of Authors have fix'd the Cause of the Small-Pox to a Heap of the Eggs of Worms hatch'd in the Body, sometimes sooner, sometimes later; that the Pustles are full of these little Worms, which gnaw away the Skin, and so leave their Marks behind them; that these Eruptions are analogous to those of the Pestilence; that the perspired Matter in these Patients is sour, and so is their Breath, which smells of Worms, and is, strictly speaking, no other than the Seeds of Worms, which communicates the Disease to all Persons that are near, and which, from the Quality of their Ferments, are disposed to hatch.

This System, which carries with it greater Probability than any other which has been advanced upon the Subject, authorises the Use of Mercury, as an internal Specific, and as a Preservative, when worn on the Surface of the Body.

A most

A most illustrious Sovereign Prince has worn it about him more than fifty Years, to preserve him from this Disease : He is now above Fourscore, and never had it.

I always wear Mercury about me : I am an old Man, yet never had the Disease : I observe that Mr. *Lemery* recommends it in his Chymistry.

These two Diseases are not the only ones which Worms produce : Many learned Men believe, that Shingles, Tetter, Itch, Scald-head, and almost all Diseases of the Skin, arise from Worms, or the Seeds of Worms, as well as malignant *Fevers*. According to *Nicholas Hartsocker*, the Pestilence, venereal Maladies, and all Manner of epidemical Diseases are occasion'd by Worms, which will certainly devour the Subject unless some specific Remedy intervenes. Nothing is then more proper than Mercury, to cure the Pestilence, Small-Pox, and all verminous Diseases, as it destroys the Putrefaction which hatches the Worms, and dissolves the Coagulations which are reckon'd

reckon'd inseparable from these Disorders: *Languors* and Weaknesses are the ordinary Concomitants of epidemical Diseases, than which there cannot be more sensible Marks of Coagulation.

Diffolutions do indeed sometimes accompany these Diseases, but it is very seldom: And it is an easy Matter to distinguish these Causes one from another, by the Symptoms.

Mr. *Newton*, in a Treatise of the Pestilence printed at *Utrecht*, asserts that Worms are the Cause of the Pestilence, that they fix in Cloaths, Linen, &c. that they multiply and live a long Time, that when one wears such Cloaths, or opens such Packs, &c. as are replete with them, they expand a Sort of little Wings and by Flying convey themselves into the internal Parts of the Body.

This Opinion, which to most Men of Learning appears highly probable, shews that the Remedy which I propose is better adapted to the Nature of the Malady, whether Worms, or a Coagulation

Coagulation of the Blood, or both, be its essential Cause, than any other. *Mrs. Chicoineau, Verny, and Soulier*, Physicians deputed by the Court for the Management of the Pestilence at *Marseille*, are of Opinion, that the Venom of the Pestilence is not, of it self, contagious, but only with regard to the Disposition of the Subjects it meets with. Admitting this System to be true, the Remedy which I propose, would suffice to correct such ill Dispositions ; and I would not scruple to make Use of the Amulet, were it but to delude the Imagination, and to procure a Tranquillity, by dissipating the Fears which alone might be sufficient to kindle up the Disease.

These Gentlemen will have it, that the Plague and Small-Pox have a very great Relation to each other, that their Symptoms are nearly the same, that what we call the Master-Pock, is a Sort of *Bubo*, or Carbuncle, that both these Diseases terminate in cuticular Eruptions.

74 *The Hospital Surgeon.*

The very judicious and most candid M. *Cicognini* has assured me, that in *Italy*, 'tis usual to wear crude Mercury as a Preservative against noxious Vapours; and that the Women carry it about them to prevent the Jaundice, and its Symptoms.

A Gentleman of Veracity and Distinction told me upon his Oath, that his Mother almost every Month, was afflicted with very severe Attacks of a Jaundice, accompanied with *Deliriums* and Convulsions; and that being one Day in this sad Condition, two Capucins came to visit her, who sent for some crude Mercury, and hung it in a proper Box on her *Sternum*; upon which her Symptoms vanish'd in a very little while; and she wore it eighteen Months without being afflicted in the like Manner, but having lost it, she relapsed into the same Disorder: That she caused more of the Medicine to be inclosed for her, which she wore all the remaining Part of her Life, without any other Attack.

What

What Consequence may be drawn from all this? If the mere Vapour of two or three Drams of Mercury be alone sufficient to re-establish a Calm in the whole Œconomy, labouring under Symptoms as bad as those of an Epilepsy, and is able to prevent their return; what may not be expected from the same Remedy, taken in Substance, being mix'd with gentle Purgatives, which encounter with, or evacuate nothing but what is malignant, vicious, and superfluous, without meddling with the wholesome Humours, which is Truth in effect, notwithstanding it may purge more or less according to the Disposition of the Subjects. Mercury fails not to communicate itself to the Chyle, the Blood, and finally to the Lymph, with which it associates, and as I have already observ'd, accompanies it in all Parts of the Body whereunto it is convey'd; and when it is arrived at the Pores of the Skin, its volatile Parts escape in a mercurial

rial Perspiration, and being darted against the surrounding Air, and meeting with the Vapour of that which is worn externally, they together form a Bulk capable of invironing the Body, and mundifying and clearing away whatsoever is vicious, malignant and epidemical in the Air which we touch and breathe: Thus is one Part of the Mercury which is taken at the Mouth, voided by Stool, another Part circulates with the Lymph, and the other is carried off by Perspiration.

The Stomach, according to some of the Ancients as well as Moderns, is the Seat of almost all Diseases; it is likewise this Organ which receives the Remedies designed for their cure.

When they are convey'd into this Part, they must of necessity be mixed and confounded with Ferments, which, according to their Qualities, will render them either hurtful or useless.

Be it as it will, this Mixture increased or diminished, will always alter the Virtue of the Remedy, and frequently render its Effects bad or uncertain.

This happens not with regard to Mercury ; it receives no Manner of Alteration in the Stomach, nothing is able to restrain or mix with it ; its separated volatile Particles unite with the Blood alone, changing neither their Form nor Nature. The Heat of the Body is not sufficient to sublime it ; it continues to be what it was ; and having made the Tour of the whole Microcosm, in order to attack and destroy the most dangerous Enemies of it, it takes its leave in the same Form it enter'd, excepting that Part of it which goes off by Perspiration.

All this is perform'd insensibly, without Tumult, Struggling or Pain. It breaks and dissolves the thick and viscous Matters which it meets with in the Stomach and Intestines, and

destroys by its Percussion and the Motion of its round Particles, all the indigested Matters which are collected on the Membranes, and renders them fluid, and fit to be discharged: That which is mixed with the Blood, works the same Effect in all Places to which the Lymph is convey'd; it forces all the Obstacles and demolishes all the Banks which oppose the Current of the Liquors.

By its Figure it opens, dissipates, dilates and disconcerts all unnatural Unions in the Body.

These dissipated and broken Matters are all conducted by a Kind of *Crisis*, to the Emunctories of the Body: And this is the Manner in which I explain my Notions of the Actions of Mercury in the Stomach, Intestines and Liquors.

It is certain that all the heterogene Matters which the Mercury has disconcerted, shaken, dislodged, and broken, do follow the Road and Motion of the Fluids.

The

The more gross and thick Parts are convey'd into the Intestines, as useless and superfluous.

The more subtile Parts of these Matters, are sent to the excretory Glands ; and by the Rapidity of the Motion which the Mercury has communicated to them, they can make no stay there, but being blended with the volatile Parts of the Mercury, they go off by Perspiration, and drag along with them whatsoever is vicious or foreign in the Glands.

It is after this Manner that I have before accounted for the speedy and surprizing Effects which this Remedy did produce in Obstructions of the Skin and cutaneous Glands.

All this is done by the Mercury which is in the Vessels, and accompanies the Motion of the Liquors : But as the nutritious Juice, design'd for the Nourishment of the Parts, must of necessity expand itself every where ; and that this Juice or Balm of the Blood must be impregnated

with Mercury; it cannot avoid striking and rubbing against the Acids which are collected in the Pores of the Membranes, in *Sciatica's*, Rheumatisms, and other Pains of the muscular Parts.

Mercury must therefore break off their Points, and by its Motion and Figure destroy them; no other Thing being capable of working the same Effect.

Behold then how Mercury comes to be an *Absorbent* and a *Dissolvent*, Terms in common use!

It absorbs, without loading itself with Acids, or any other Substance; and it dissolves, without having the least Degree of Heat; is not this really a Matter of Speculation?

A * Lord of the first Quality in our Court, equally distinguish'd by his Merit, Birth and Employs, who does me the Honour of his Friendship, and was pleased to read over

* *Le Marquis de Rivarole.*

my

my Treatise on Mercury in Manuscript, being a competent Judge of the Value of a Work, started to me a very judicious Objection, which gave Occasion to the short Discourse which I am going to subjoin.

You assert, says he, that crude Mercury is communicated to the Blood and Liquors; and yet as soon as it gets into the Stomach, mix'd and incorporated with your Pills, they are dissolv'd: The Mercury then quitting the Ingredients with which it was blended, all its divided Particles reunite and form a Globe, which cannot remain long in the Stomach, but passing the *Pylorus*, enters the Intestines, and is discharged by the *Anus*; so that none of this Mercury can be communicated to the Liquors.

I agree, replied I, that the Pills are soon dissolv'd by the Humidity of the Stomach, and the warm Liquor in which they are swallow'd. But then it must likewise be taken into Consideration, that the Mercury

is very minutely divided in the Pills; that during the time this Dissolution is performing, the Degree of Heat which is in the Stomach, is exactly sufficient to elevate a Sort of little Cloud of the more volatile Particles of the Mercury: They quit the Substances that with-held them, and insinuate themselves with ease and speed into the Orifices of the lacteal Veins, whose Figure is exactly adapted to receive them; thus are they carried into the Blood, and accompany it in its Circulation. What makes me conjecture that this is Fact, is, that I have observed, that in Subjects where the Stomach is loaded with gelatinous and viscous Matters, which line its internal Membrane, and close up the Orifices of the lacteal Vessels; these little Globules getting at Liberty during the Time of the Dissolution, and not being able to enter the Vessels, do strike against these Matters, divide, subtilise and loosen them: By this Shock and the Weight
of

of the Matters which fall to the Bottom of the Stomach, a small Vomiting is sometimes excited, much to the Patient's Advantage; but it is only the first Dose which produces this Effect, and that very seldom.

Whether it be produced by these Matters or not, it is certain that the subtile Particles of Mercury are very quickly communicated to the Mass of Blood. To be convinced of this, one needs only to examine what it does in Tumours, Obstructions, the Gravel, Gout, *Sciatica*, Rheumatism, &c. With what Expedition it operates in Diseases of the Skin, and of all other Parts of the Body.

To form a right Judgment of the Subtility of the volatile Particles of Mercury, we need only consider the Minuteness of the Ramifications of the sanguinary and lymphatick Vessels, into which it insinuates itself, and mixes with those Liquors.

An Anatomist shew'd me several Membranes, some of which were as

84 *The Hospital Surgeon.*

fine as a Spider's Web, whose Vessels he had injected with so great Art, that I was astonish'd at his Skill and Patience : By the Assistance of a Microscope one might discern Millions of Vessels within the Space of four Fingers breadth, two hundred of which, if put together, would have been scarce so big as a Hair.

By this appears the Necessity of keeping the Humours in a fluid State, and with what ease Coagulations, Impediments, and Obstructions may be formed.

It will occasion no surprize that I assert, that the subtile Particles of the Mercury penetrate into the Orifices and the Ramifications of the finest Tubes, if it shall be consider'd, that Mercury inclosed in a Quill seal'd up close, will nevertheless perspire and escape through the Pores of the Quill, which are utterly imperceptible.

The *Aq. Hermetica* shews the Subtility and Lightness of the volatile Particles of Mercury ; which altho'

it be boiled ever so many times in the Water, and the Water be impregnated with its subtile Particles, yet is its Weight not sensibly diminish'd.

I have heard, tho' never made the Experiment, that if a Person keeps the End of his Finger on crude Mercury a good while together, holding in his Mouth, at the same time, a Piece of Gold; the Gold shall be tinged white, and that without any perceptible Diminution of the Mercury.

These are Evidences of the prodigious Volatility of Mercury, and that nothing but Gold can arrest its subtile Particles; whether the Figure of the Pores of that Metal be dispos'd to receive it, which seems likely, or that there is a certain Analogy between these two Metals which constrains them to seek and be united with each other. It penetrates, with the like Ease, the cuticular Pores, insinuating and communicating itself internally. It is notorious, and it falls

falls out but too often, that mercurial Applications, whether by Way of Unguents or Plaisters, design'd for the Dissolution of Tumours, tho' in small Quantities, do raise Salivations, to the Surprize of the Practitioner, who will be sure for the future to make use of them with greater Caution than before.

It may be objected to me, that Mercury worn about one should, for the same Reason, produce the same Effect, and especially since so subtile a Vapour is capable of penetrating with great Facility.

It is true that it penetrates, that it renders the Lymph more subtile and fluid, and by consequence occasions the Person to spit more easily and more copiously: I have seen this Effect of it in my self and others; but this Evacuation is beneficial and salutary, and cannot be called a Salivation.

This simple Vapour has neither Substance nor Force sufficient to oppose

pose the Course of the Blood: It cannot make Resistance enough to stop the Currents of the Liquors, and finally to sublime them to the upper Parts: It is a kind of subtile Fume, which gives way without Resistance, which penetrates the Liquors without Struggle, which unites with them, and follows their natural Motion, and which finally can never produce any noxious Effect.

On the contrary, when it is applied externally in Unguents or Plaisters, it is admitted through the Pores into the Vessels in Substance; and is then capable of opposing the natural Course of the Fluids, as far as it extends; which in some Subjects is sufficient to excite a Sublimation and a real Salivation; and this we see does frequently happen.

All these Things suppose a Commerce between the subtile Matter of the first Element, and the Mercury; I only touch upon this Article, because it is beside my Subject,

It

It may be said, that the Elevation of the volatile Particles of Mercury, which I suppose to be made in the Stomach, is a Sublimation ; and yet I have said that it cannot be sublimed in the Body, when taken at the Mouth : Here seems to be a Contradiction.

The Observations which I have made on Mercury, on its Action, and on its Effects, when taken at the Mouth, could never persuade me, that it could be so far sublimed as to rise up to the Head, which I call a real Sublimation ; except in a few very particular Cases ; for Example, that of M^c. *Reffent*.

I only believe that its volatile Particles may in the Stomach be elevated so far in the Dissolution of the Pills, as to mix with that admirable Cream which results from Digestion, I mean the Chyle, so that they pass into the Lacteals together : The Capacity of the Stomach, its Heat and Ferments, together with the subtile
Liquors

Liquors with which it associates sympathetically, favour this Manner of Action.

When it enters these small Veins, it pursues the Course of the Liquors which they have suck'd in: It is then no longer susceptible of Sublimation, being mixed with a Fluid which is to it as a Vehicle.

This Objection has occasion'd all these Remarks, which have carried me a little from my Subject.

The *Crisis* excited by Frictions, which is made by the Mouth, cannot be perform'd without doing a Violence to Nature: It is shameful, odious, painful and dangerous: It demands the most diligent Attendance and Precaution. To procure the desired Benefit from a Salivation, it must be carried to Excess, and the Patient must be reduced to the last Extremity. If he is weak, you must curb his Flux, and in thus favouring him, your End is lost. All that you have done, and he has undergone, will

will serve only to make the Disease more rebellious, and difficult to be rooted out.

These imperfect Cures add Strength and Vigour to the *Virus*, the Patient becomes disheartened, and will not run the Risque of exposing himself a second time to the Uncertainty and Danger of such a Method; and should the Flux be carried to such a Pitch as is requisite to exterminate the Disease, he is then in the utmost Peril of sinking under it.

It is a Prophanation of the Mouth, to subject it to a Function so disagreeable, so base, and, in a Word, so unworthy of it.

It should seem to me more conformable to Reason and Nature, to chuse out in its stead an Emunctory which Nature has design'd for the most vile and abject Offices.

The Intestines and *Anus* have ever been accustomed to carry off the Filth of the Body: Reason points out the same Road to me when I undertake

dertake the Cure of venereal Disorders with my Mercury, as likewise of all other Maladies which arise from Acids, the Number of which is very considerable.

This Mercury being mixed with Purgatives, the whole is determined downwards by Stool; it being taken at repeated Intervals, the former Doses are Preparatives to those which succeed; they begin to effect a Dissolution and Fluidity of the Humours, and the subsequent ones do with ease procure themselves to be evacuated, and that constantly in the most salutary and gentle Manner.

Thus is a kind of Flux by the *Anus* obtain'd, which may be prolonged at Pleasure, and I have many Reasons to believe it preferable to the other.

It will be found extremely commodious for such Persons as desire a Cure to be wrought in the utmost Privacy, without Confinement to Bed or Chamber, or Restriction from
their

92 *The Hospital Surgeon.*

their usual way of living: It will answer all these Ends, and the Cure will be effected without the least Danger, in a gentle and easy manner.

The evil Preparations of Mercury, usually given at the Mouth, and the small Advantage accruing from them, have brought Salivations into Vogue: Those who have been cured by this Method, have set forth the Excellency of this Remedy; those who have dy'd under it could tell no Tales; those who have escaped a Cure, have thought proper to decry it, believing that their Disorder was above the reach of Mercury. And indeed the different Opinion of Physicians concerning its Virtues, Nature and Use, have given birth to a Multitude of Doubts, and all this for want of knowing it rightly.

Some praise, and others condemn it: One is for giving it crude, another looks upon it as a Poison when unprepar'd. It has been disguised under a Multitude of Forms, yet when
you

you take away its Figure and Motion, you rob it of its Force and Virtue.

When taken at the Mouth, in the Manner I give it, it drives out the Impurities of the Body, by the same way that the natural Filth passes every Day of our Lives.

The Intestines, to answer these Ends without Pain, are throughout their whole internal Surface, lined with a Mucilage which defends them from being stimulated by the acid, bilious, and corrosive Matters which pass through them in order to be discharged. And for this Reason it is, that the venereal *Virus*, when it takes this Road, produces no mischievous Consequences.

I shall doubtless be told, that the Bulk of mercurial Vapour which I suppose to environ the Body, mixing with the Air we breathe, must of necessity, in Respiration, enter into the Lungs.

This

This is indisputably certain and inevitable ; but it will there perform the Part of a Remedy, and a Preservative against Corruption ; will render the Respiration easy, by dividing and making fluid whatever was tenacious in the Lungs ; and may be of good Service in *Asthma's* and Shortness of Breath, as I have often experienced, tho' the Effect will be much promoted by the internal Use of it. If it should happen, which it very rarely does, that the Workers in mercurial Mines should be somewhat incommoded, it should be consider'd that they do their Business under Ground, where the Air is extremely loaded with volatile Mercury, and that they breathe, in a Manner, nothing but Mercury ; that they spend their Days there, and that it is nothing else but the immense Quantity which produces the Harm : Besides, great Numbers continue their whole Lives in those Places without receiving the least Damage.

Those

Those who have no ill Apprehensions of Mercury, but with regard to the Salivation which it raises, may lay that Fear aside when they take it as it ought to be prepar'd ; it being bridled and restrained from playing any such Pranks, and may be taken for a Year together with the utmost Safety, as the Multitude of Cures which I have perform'd with it do testify.

Therefore having from infinite Experience been convinced of its good Effects, and reflecting seriously on the Matter, I contrived a System by which I explain'd to my self the Manner how these Consequences were brought about.

And finally, I rested in this Opinion, as I have already said, that the whole Force and Virtue of Mercury consists in its Volatility, its Figure, and its Motion: Whether I have determined justly upon the Matter or no, let Mercury act after this Manner, or any other, as different as you can

can imagine, it is full Satisfaction to me, that I have been able to convince the avowed Enemies of Mercury, of its Goodness, Use and Virtues.

If my Notions are wrong, the whole Blame rests upon my self; for I have borrowed none of them from any Author: If any one ever wrote of Mercury in the Manner which I have done, his Book never came to my Knowledge. Experience has been my Master, my Director, and my Guide, as well in this, as in all that I have hitherto, at any Time, communicated to the Publick.

I am apt to believe that no Person before me, ever made use of it for so long a time, and on so many different Occasions; and upon the whole, I cannot but think, that if such a Thing as an universal Medicine be at all to be obtain'd, it must be from Mercury.

The Difference of Climates (for I have sent it to very remote Parts) of Seasons, of Temperaments, of Ages,
of

of Sexes, of Diseases internal or external, varies not the Efficacy of this Remedy: It produces sometimes a little sooner, sometimes a little later, such Consequences as are ever salutary. This seems somewhat to favour the Opinion of those who believe that all Diseases incident to Mankind, are produced from one Cause: If this Opinion be just, then one Remedy may cure them all.

The different Effects, and the different Diseases which this first Cause or Ferment produces in us, may depend intirely on the different Dispositions which it meets with in the Subjects; itself being ever the same, tho' under a Disguise or Masque.

Many Things concur to make this Difference in the Temperaments: The Influences which predominate at the time of Conception or Birth, Climates, Air, and Food, do all determine the Inclination, the Disposition, the Strength, the Weakness, the Virtues, the Vices, and the
F different

98 *The Hospital Surgeon.*

different Qualities of the Blood and Humours.

There are Diseases that are hereditary ; there are some that are peculiar to certain Countries, to the Land, to the Sea, to Youth, to Age, which have their Singularities: There are Disorders which are contracted by a wrong use of natural Things, too much or too little Exercise, and being accustomed to certain Liquors.

About twenty four Years ago I was commissioned by my Royal Mistress to visit M. *le Marquis de Lucé*, her Gentleman of the Horse, at *Milan*, who was dangerously wounded: The Weather being at that Time exceeding hot, I drank to quench my Thirst for eight Days together, a certain black Wine of that Country, which being new and crude, it form'd an Acid in my Blood, which in fourteen or fifteen Days render'd the Lymph so thick and sizy, that the tartareous Parts of the Blood, being of a sandy Nature, were so concret-

ed

ed and united thereby, as to form little Stones which I believed would prove fatal to me. I got quite rid of this Complaint by crude Mercury, all other Remedies proving ineffectual.

This Sketch of a Theory, which Mercury gave me occasion to offer, (its volatile Particles having elevated me quite above my Sphere) gives me a Suspicion, that besides the universal Ferment, which I believe is almost as old as the World itself, there is another particular Ferment produced from the Mixture of several Seeds, which having been fermented together, gave rise to a vicious and contagious Venom, which no Time will be able to destroy, and whose Impressions are communicated from Generation to Generation.

The Ancients had not the least Notion of such a Ferment. It escaped the Sagacity even of the great *Hippocrates*; tho' the Leprosy, so common in his Days, was of this Production,

duction, being according to several Authors, no other than an inveterate Pox.

As the Seed was first infected with this *Virus*, some are of Opinion that the ill Impression which it once receiv'd, can never be entirely effaced, but that it will descend to Posterity for ever; that it multiplies more or less according to the Disposition of Subjects; that it is capable of being communicated to either Sex a Multitude of Ways, without the Violation of Chastity: That it is difficult to meet with a Family which have not derived from their Ancestors some Sparks of this Evil, which is grown very common since Mothers have left off suckling their own Children; that this Leaven, which lies disguis'd under a great variety of Forms, and so frequently puzzles the Physician in his Judgment and Prognosticks, may lye quiet, and be worn out in all Appearance, but that its coagulative Substance always remains; that it

may

The Hospital Surgeon. 101

may spare the Father, and afflict the Son or Grand-son: that it may be detach'd to the glandular Parts, and continue there a long time in Repose; that certain Dispositions may rowse, exalt, and put it in Motion, so that it shall re-enter the circulating Fluids, and be deposited upon certain Parts, producing Gouts in the Joints, Rheumatisms in the muscular Parts, Gravel in the Kidneys, *Scrophula's* in the Glands, Cancers in the Breast, Obstructions in the *Viscera*, Scurfs, Itch, Ulcers, Leprosies, &c. The far greater Part of which Diseases are the real Posterity of the Pox.

In such a Conjunction, a judicious Physician will find it no easy Task to propose to his Patient the use of a Remedy which implies so ignominious a Disease, when he is well assur'd that it cannot be the Fruit of his own Debauches: The very mention of Mercury, which alone is able to vanquish these *Hydra's*, will carry a Horror along with it: And thus is

he deprived of a certain Relief, and must be content to put up with a mere palliative Cure.

Thus do a great Number of afflicted Persons languish out a tedious Length between Diseases and Remedies, and become incurable in the End.

Experience authorises such a Manner of Reasoning, and at the same time shews, that Mercury being, beyond all Contradiction, a specific Remedy in the Cure of the Pox, it must likewise remove all other Complaints that depend upon the same Cause; and if the Cause of such Complaints is capable of being destroy'd, it is this alone that has Power sufficient to do it: A great Number of Remedies may restrain and palliate the Symptoms, and procure a Truce, but nothing but Mercury will eradicate the Principle from which they arise.

What is surprizing in the crude Mercury, which I give by the Mouth,

is,

is, that the Gentleness with which it acts, seems inconsistent with the prodigious, salutary, and speedy Effects which it produces; and that without the least unlucky Accident, as I can sincerely aver, from above three and forty Years use of it. The like cannot be affirmed of any other Medicine.

The more the Patient takes of it, the more will he find himself to advance in Strength, and a good Plight of Body.

The Thing will appear very possible, upon an unprejudiced Consideration, that the Mercury, as I have before shewn, insinuates itself very speedily into the Liquors, and renders the Blood more soft, more fluid, and more fit to be carried and convey'd into the finest Vessels, at ever so great a Distance, by the way of Circulation, in order to communicate Nourishment to the several Parts of the Body; that it destroys without Dispute, all Obstructions and Obstacles;

cles; that it opens the Tubes, and the depuratory Canals; that it facilitates and forwards the menstrual Discharge in Women; that it removes every Thing that might hinder the Distribution of the nutritious Juice, and the natural Course of the Spirits and Fluids; that it ruins and absorbs the Acids which occasion Leanness, and are the Foundation of a great Number of Infirmities; and that it brings about the Evacuation of every Thing that is heterogeneous and vicious, without meddling with any Thing that is good or necessary.

All these Things shew, that crude Mercury, used in my Manner, does no ways weaken, but strengthens and fattens.

These are my Notions of the mechanical Action of Mercury on vicious Ferments, of what Nature soever they be; that it may be administered without Danger in the most considerable and desperate Cases, as well as in the most simple. For Example.

ample. The Apoplexy and Palsy being produced from a too thick Blood, and from viscid Humours settling in the Brain, the Mercury restoring to the Blood its native Fluidity, and destroying the Viscosities, a free Circulation of the Liquors and Spirits must ensue; for by removing the Obstructions, the essential Cause of these Diseases is remov'd. A Cataract is caused by a foreign Matter coagulated by Degrees between the chrystalline Humour, and the *Uvea*, or by a Thickness of the Liquors which circulate in the Chrystalline, closing up at last the Aperture of the Pupil.

There is no doubt but this Dissolvent would dissipate such a Coagulation, if it were apply'd in time.

A *Gutta serena* is no other than an Obstruction in the Optick Nerve, caused by Substance of the same Nature; the same Remedy would in all likelihood be attended with Success.

Conclusion. F 5 In

In short, all Parts of the Body, found or unsound, without Exception, are equally penetrated by Mercury in healthful Persons: In them it acts the Part of a Friend and Benefactor; and to diseased Persons, it is a Restorer, a Redeemer, and a Corrector of the Causes of their Complaints.

What renders it extremely agreeable, is, that during its Use, the Patient enjoys a perfect Tranquillity and Calm; it acts without occasioning any Conflict or Disgust.

This should make it seem probable, that it is pleasing and delightful to Nature; since by its Means she is delivered from that which oppresses her; without suffering any Alteration or Disorder in her usual Functions.

There can be no greater Proof than this, that Nature is an Enemy to Violence; of which I have endeavour'd to convince all young Surgeons in my former Work, treating of the Cure of Wounds. All these

Conclusions

Conclusions and surprizing Operations are wrought without Force, without Violence, and without Noise ; she subdues every Thing without putting herself in a Hurry ; she nourishes all Things, produces all Things, preserves all Things, increases all Things, without subjecting her Actions to our View. The prudent Physician should follow her Conduct, and imitate her in the Cure of Diseases.

I have seen such a Method of Practice pursued, with an infinite deal of Satisfaction, by the learned and judicious M. *Cicognini*, Counsellor and first Physician to her Royal Highness. I am beholden to his Merit and to Truth, for this authentick Declaration, having been an Eyewitness to his Treatment of several Patients, whom he cured without giving them any Medicine, by observing with great Judgment the Motions of Nature as she acted alone of herself, when she was so inclined or able ; and lending her his Assistance

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when.

when she stood in need of it. This is performing the Part of a Physician to the utmost Perfection.

This Treatise, I am sensible of it, will seem tedious: My Subject has carried me beyond what I intended; I think however that there is nothing in it from which some Advantage may not be drawn. I have fallen into Repetitions through the Weakness of my Capacity, and the Connection of the Proofs, Reasons, and Cases which I have expatiated upon; endeavouring to support a Fact which I believed to be entirely new, without any manner of Assistance from Greek or Latin.

I was sensible enough that I should meet with Opposition, either from Envy or Prejudice, there being Persons enough in the World who are sworn Enemies to Novelties, and who, to save themselves the Fatigue of exercising their Wits, are resolved peaceably, blindly and supinely to tread in the Paths of Antiquity,
right

right or wrong, to applaud whatever has been handed down of old, and to condemn without Appeal, every Thing that is not of that Stamp.

How, say they, can a poor Practitioner, without Learning or Education, have the Assurance to patronize a Remedy which the most famous Authors have rejected? The famous *Fernelius* rejected it because he knew nothing of it: What precipitate Rashness was this!

Well, say they, Physick and Surgery have for several Centuries been in Possession of a great many excellent Remedies: Must these be given up a Sacrifice to Mercury, and that upon the Credit of some Cures which Chance had the greatest Share in? Because his former Work, wherein he attacks the venerable Oracles of Antiquity, was suffered to go unpunish'd, does he imagine that This shall escape without being sifted, censured, and exploded? Tho' the Rage of such an Outery may be
thought

thought sufficient to demolish both the Author and his System, yet it gives me no very terrible Apprehensions: I allow that Faults deserving enough of Censure, and likewise faulty Expressions may be pick'd out of this Treatise, which I did not design for a Piece of Eloquence: Besides, the finest Pictures have their Shadows.

I am however in Hopes, that the Force of Truth, and the Reflections which Men of Reason shall make upon this Subject, will be sufficient to justify me, and protect this Treatise of Mercury, especially since it is the Result of above three and forty Years Experience; that a little Time and a little Patience will make it triumph over its Enemies; and that this Remedy will, some time or other, have the Preference beyond almost all the Remedies that are in Use, for the Good and Benefit of Mankind.

When

The Hospital Surgeon. III

When a Man is arriv'd at 70 Years of Age, every Day of his Life may be regarded as critical, and every Year as climacterical ; it should therefore seem to behove me to keep my Preparation and Composition of Mercury no longer a Secret ; especially, since in my former Work I gave the World a kind of Promise that I would communicate it one Day or other. That Day is not yet come : The Rigour of the Times, and the considerable Losses I have sustain'd in my own Country, have been the Means of postponing it.

My Family may find a comfortable Subsistence from it, and it may be as a kind of Recompence to them for being depriv'd of the Benefit of my Labours for many Years together. To them I leave both it, and the Completion of my Promise, when they shall think it proper ; for I would not have the Publick always remain without this Advantage.

Reflection

112 *The Hospital Surgeon.*

Reflection and Experience compell'd me to fall into the Opinion of *Magatus*, with Regard to the Cure of Wounds ; and I believe most People might be brought over to the same Sentiments : Be it as it will, I shall have perform'd no little Matter, if I have been able to persuade Mankind, that crude Mercury may be administred to great Advantage, without Danger or Fear ; that this simple Metal, without Taste and without Smell, may supply the Place of a whole Heap of disgustful Medicines, whose Effects are uncertain, and oftentimes useless and pernicious ; and that it preserves the Body and Spirits in Health, and prolongs youthful Vigour.

Those who may suspect that I have exaggerated upon the Matter, in my Report of the Virtues of Mercury, may, if they please, give themselves the Trouble of Reading the following Letters.

They

They were written by two famous Professors of Physick : The first by M. Goffe, Doctor of Physick in the City of *Cbiere* : And the rest by M. *Mancheti*, Doctor of Physick, and Physician to his Eminence, the Cardinal *Picò de la Mirandola* ; the one sent from *Boulogne*, and the rest from *Rome*, giving an Account of what this Remedy perform'd upon this learned Physician, on his Brother, and on other Persons to whom he gave it with good Success.

Cbiere, August 12, 1721.

“ I Should have done my self the
“ Honour, Sir, to answer your
“ obliging Letter before now, but
“ that I was first desirous of observ-
“ ing the Effect of the Pills which
“ you sent for M^e. *la Comtesse Bus-*
“ *quet* ; I am ashamed that I have
“ been so dilatory ; but I intend, by
“ way of Recompence, to give you
“ an Account of the happy Success
“ that

114 *The Hospital Surgeon.*

“ that attended your Medicine, which
“ we administred according to your
“ Instructions.

“ I am to acquaint you then, in
“ the first Place, that the Lady is
“ perfectly freed from the cruel Pains
“ which tormented her for above four
“ Months.

“ We have made use of the Re-
“ medy about fifteen Days; she had
“ not taken four Doses before her
“ Pains entirely left her; she stirs
“ herself freely, and that with the
“ greater Pleasure, as she had been,
“ ever since she was first confin'd to
“ her Bed, obliged to lay on her
“ Back.

“ After the seventh Dose she got
“ out of Bed, and she now walks
“ with Crutches.

“ The Medicine purged her with-
“ out the least Pain, yet she voided
“ a prodigious and amazing Quan-
“ tity of Water, by the Effect of
“ these excellent Pills; at which she
“ is so surpriz'd, and so well pleas'd,
“ that

“ that she is for continuing them on,
“ notwithstanding the Heat of the
“ Season.

“ If you think well of it, I be-
“ lieve it would not be amiss to send
“ her to *Aquy*, to compleat there
“ what your excellent and admirable
“ Remedy has so happily begun.
“ *Monf. and Mad^e. le Comtesse*, send
“ you a thousand Compliments and
“ Thanks, and pray you to present
“ their humble Duties to her Royal
“ Highness. For my own Part, I
“ am charm’d with this good Suc-
“ cess, and beg you to believe
“ me,

Étc.

This Letter was faithfully trans-
lated from the *Italian* into *French*:
The Lady found she had no need to
go to *Aquy*.

The

116 *The Hospital Surgeon*

*The translated Copy of a Letter written
by M. Mancheti, Doctor of Phy-
sick, &c. to M. Cicognini, Coun-
sellor and first Physician to her Royal
Highness.*

S I R,

I F you fancied that the Gout
obliged me to walk with a
Stick, you were very much in the
Right; but I am to inform you
that I have felt nothing of it for
five and thirty Days past: This I
attribute to M. Belloste's excellent
Pills, which I took to my very
great Satisfaction.

One of my very particular
Friends had a *Fistula in Ano* for
six Years together: It came of it
self, and open'd without Pain; it
was externally about as big as a
Pea, and discharged itself at the
Orifice. I gave him the same
Pills, and in a short Time he found
himself

“ himself perfectly cured. On this
“ Account I have order'd 48 Livres
“ for three Ounces of it, which I beg
“ you to send me. If it is not here by
“ next Sunday, I must entreat you, Sir,
“ to give your self the Trouble to send
“ it me to *Rome*. My Brother, I
“ thank God, is pretty well, though
“ he has still some small Remains of
“ his Palpitation, but not so much
“ as to incommode him. I was
“ of Opinion that antypocondriac
“ and chalybeat Medicines might be
“ serviceable to him; but on the
“ contrary, his Symptoms were so
“ much aggravated by their Use,
“ that he was forced to lay them a-
“ side. I suspected a Sickness of the
“ Fluids, and that he might have
“ some *Polypus's*; which made me
“ fancy that *M. Belloste's* Pills would
“ be the only Remedy for him: I
“ prevail'd upon him to take them,
“ though the Season was pretty cold,
“ and he continued so to do 'till all
“ his dangerous Symptoms left him:
“ His

118 *The Hospital Surgeon.*

“ His Belly is now reduced to its na-
“ tural Size, and his Complexion is
“ very good. I wrote to M. Bel-
“ loste, whom I entreat you to salute
“ in my Name.

I am, Sir, &c.

MANCHETI.

*A Letter sent me by M. Mancheti,
of the 9th of October, 1723.*

“ **T**HE very worthy and cele-
“ brated M. *Cicognini* has gi-
“ ven me, Sir, such Assurance of
“ your Goodness, that I presume to
“ offer you these Lines in Testimo-
“ ny of the Obligations and Thanks
“ which both my Brother and my
“ self owe you, although we have
“ not the Honour to be known to
“ you: We having experienced, each
“ of us, an equal Effect and Bene-
“ fit from your wonderful and most
“ excellent Pills; the Price and Va-
“ lue

The Hospital Surgeon. 119

“ lue of which cannot be confin’d
“ to a *Louis d’Or* a Grain, if we re-
“ gard their Qualities. Yet I should
“ be glad, Sir, if, for the Benefit
“ of Mankind, you could a little
“ moderate the Price of them. I
“ have wrote to M. *Cicognini*, who
“ will take Care of the Quantity you
“ shall think fit to send me, and I
“ entreat you to send Directions a-
“ long with them, and to let me
“ know in what Diseases they may
“ be given, and how long they will
“ keep. We shall set out the End
“ of this Month for *Rome* with his
“ Eminence : I shall always be sure
“ to retain a due Value and Esteem
“ for you, and a Readiness to serve
“ you : At present I intreat you to
“ believe me, &c.

MANCHETI.

An

An Extract from another Letter of the same M. Mancheti, of the 14th of January, 1724, from Rome, to his good Friend M. Cicognini.

“ I MUST acquaint you, dear
 “ Sir, that some Days since I
 “ felt a fresh Attack of the Gout ;
 “ my Legs being somewhat stiff,
 “ and my Feet in Pain, which was
 “ more than I had felt for four
 “ Months before. I took forthwith
 “ a double Dose of M. Belloste’s Pills,
 “ which is a whole Dram ; and to my
 “ great Surprize, the Operation of the
 “ Medicine was not over, before all
 “ my Symptoms were gone. I cannot
 “ give too great a Character, either of
 “ the Remedy, or its Author, whom
 “ I beg you to salute in my Name ;
 “ I should be heartily glad, could I
 “ be of any Service to him here ;
 “ having not Power to express the
 “ great Obligations I owe him, &c.

The

The Encomiums which M. *Mancheti* gives of this Remedy cannot be suspected : He is a very skilful and judicious Physician, and he could not be silent about the good Effects which this Mercury wrought on his Brother, who by Means of it, was entirely freed from a dangerous Disease, as likewise upon himself, who in another Letter of *February* 24, seems to flatter himself that he shall no more be troubled with the Gout, which afflicted him so much before, and kept him confin'd to his Chamber for Months together ; adding that since he began to make use of my Medicine, he has had only one small Fit, which lasted him but one Day ; and that he should be glad to know if this Remedy may be employ'd in a large, hard, and inveterate scirrhous Tumour.

I return'd him Answer forthwith, that he might boldly venture upon the Use of it, not only in this, but in all other Tumours ; that within a
G Month

Month past, I had under my Care a Gentleman of Distinction, well known to M. *Cicognini*, who had a very bad *Sarcocele*, accompanied with a Hardness of the whole Tongue, yet both these Complaints were cured with great Expedition, without any other Remedy; that M. *Bouillon*, Professor-Royal in our University, had sent him to me; and that the same very learned Physician had long since made Tryal of it in other very difficult Cases, to his entire Satisfaction.

Having had no Opportunity of saying any thing about a *Polypus* in this Treatise; and these Letters from *Rome* having been sent after I had finish'd it, I thought it would not be amiss to subjoin something concerning the Cure of Dr. *Mancheti's* Brother; because I think I have luckily fallen upon something which I may call a new Discovery.

The *Polypus* is an Excrecence of Flesh, which takes its Name from its
Figure;

Figure ; it resembling a Fish that is so call'd. It is engender'd from an acrid, tenacious, viscous Blood, which circulates very slowly ; this gives occasion to the acrid and acid Humours to excoriate the Orifices of certain Vessels, and at the same time, to thicken the nutritious Juice which flows for the Sustenance of the Parts, and mixing with the other viscous Liquors, forms Excrescences, which take Root where the Excoriations began, and which take the Figure of the Places or Cavities in which they are formed: In the Heart, the Vessels, and the Nose, they are long, rounded, or flat ; and in the *Scrotum* they constitute a round Mass which is call'd *Sarcocoele*. Thus these Maladies, though they go under different Names, are all of one and the same Nature.

Experience having convinced me, on a Multitude of Occasions, that my Mercury cures these *Sarcocoele's*,

124 *The Hospital Surgeon.*

the same Remedy must likewise cure the *Polypus*, wheresoever it be.

It is not difficult to conceive how this should be : It destroys the acid and acrid Humours, and renders them fluid : Their Thickness is the efficient Cause of these Diseases ; and the Cause being remov'd the Symptoms cease.

It liquifies and resolves all unnatural Unions ; by the former of which Properties it hinders the Progress of a Disease, which might otherwise increase, and occasion the Person's Death ; and by the latter it destroys the Tumour, and acts upon the Excrecence, as it does on *Scirrhus's*, glandular Tumours, and Obstructions.

Finally, To put an End to this Treatise, which is already too long, though I find it's difficult to finish it on the Account of the new Proofs which continually offer, I will add this short Reflection, without abusing my Reader's Patience any longer.

Every

Every one is sensible that all Countries abound with a great Number of People of no Service to the Community, who are kept at a considerable Expence in Hospitals, on Account of several real and pretended Infirmities, which their Manner of Living, either in Laziness, or in Fatigue and Misery, has brought upon them who pass for incurable, and are really so at last, for want of using the only Remedy which is capable of curing them speedily, and with small Expence.

Crude Mercury taken at the Mouth, would clear the Hospitals of them all, and re-establish Numbers of slothful Vagabonds in a Condition to work ; who under a Pretext of certain Maladies, which they industriously cherish and prolong 'till they become contagious, infect whole Cities and Countries, and extort Alms, which they apply to evil Uses.

A gentle and easy Method of reducing the Intestine when it is fallen into the Scrotum, with a Strangulation in the annular Perforation of the Peritonæum, and of a Sarcocoele.

IT having been objected to me, that in my former Work I treated too superficially of the Descent of the Intestine into the *Scrotum*: I thought my self obliged to handle that Matter more at large in this; although I have already written a Letter to my celebrated Translator M. *Sancassany*, first Physician to M. *le Duc de Guastale*, by way of Answer to one of his, wherein he desires my Opinion in a Case of the like Nature, which was treated in the ordinary Way, namely, with Emollients, and was attended with very bad Success.

Although

Although I repeat here, what I wrote in very great Haste, yet the Reader will meet with some Observations which I had the Leisure to make since, and which I esteem of great Consequence. Without troubling my self to define the several Kinds of *Hernia's*, which every Surgeon ought to be familiarly acquainted with, I shall confine my self to that one Sort, where the Intestine falls into the *Scrotum*, with a Strangulation in the Rings of the *Peritonæum*, which is often accompanied with a *Volvulus*, and a Mortification of the *Scrotum*, which bring on speedy Death, and this in my Opinion by an indiscreet Use of Emollients, and hot, resolute, and carminative Fomentations: With regard to this Complaint, as well as all others wherein Surgery may have any Concern, the Structure of the Part aggrieved, the Nature of the Grievance, the Symptoms and Prognosticks should be well understood, and then proper Remedies should be chosen for the Cure.

128 *The Hospital Surgeon.*

The *Scrotum* has Parts containing, and Parts contain'd.

The containing Parts are the Membranes, the Teguments, and the Muscles.

The Muscles are two, call'd *Cremasteres*, or *Suspensorij*, which have their Origine from the fleshy Extremity of the *Obliquus ascendens*.

The Membranes are the *Albuginea*, which is fix'd to the Testicles, and the *Vaginalis*, which arises from the exterior Membrane of the *Peritonæum*, and forms a kind of Sheath.

The *Musculi suspensorij* dilate themselves, and form another kind of Membrane, which makes me apt to believe, that all the Fibres of this Membrane are so many little Muscles, which nevertheless are Organs without any voluntary Motion, as well as the *Cremasteres*: The common Teguments are the last of the containing Parts.

The contain'd Parts are, the spermatick descending, preparing, and ejacu-

ejaculatory Vessels, the Nerves, the lymphatic Vessels, and the Testicles.

All these Vessels, together with the Nerves, do pass through a Production of the *Peritonæum* in the Form of Scabbards, or large Canals, which as I have already said, are continued down to the *Scrotum*. There being then in each Groin a kind of Ring, or Perforation of the *Peritonæum*, it is the Dilatation or Rupture of one of these Rings which forms that kind of *Hernia* which is called *Enterocoele*, the Intestine falling down into the *Scrotum*. Sometimes it slides down by slow Degrees, and exceeds not a moderate Size. And there are some who have had this Complaint for very many Years together, without any great matter of Inconveniency attending it; it being easily enough reduc'd. But when some Violence precipitates the Intestine into the *Scrotum* all at once, and in a considerable Size, the Case is then very dismal, and no time must be lost.

The Effort of the Fibres in the violent Extension which they suffer from the prodigious Bulk of the *Scrotum*, and which are fix'd at their Origine and Insertion, which are contiguous to each other, and surround the Rings of the *Peritonæum*, being in a manner dragg'd, do occasion so strict a Ligature and Compression at the Perforation, through which the Blood-vessels and the Nerves pass, that a Mortification ensues in a very little Time, without Pain or Inflammation, and purely by Privation, and for Want of a Remedy.

As this Mortification is not preceded by any distinguishable Symptom, which always happens in Mortifications of other Parts, it is next impossible to foresee it, or avoid it, and the Death of the Patient always gives the Surgeon great Surprize and Confusion, having often Recourse to the Operation, which serves only to hasten the End of the afflicted Person: Now the Thing required is a
Way

Way of taking off the Strangulation ; for till that be done, it will be impossible by any Means, to return the Intestine into the *Abdomen*.

The Method which I have seen practised in all Places where I have been, is to use Emollients : I shall now make it appear how far this Method is defective, as likewise how insignificant all Attempts are to return it by the Hands, by way of Compression.

Emollients are Remedies which are made Use of to supple, relax, and soften.

In the *Scrotum*, whereinto the Intestine is fallen, there is nothing to be soften'd, for the Intestine is distended with nothing but Wind : If it should be imagined that it contains Excrements, which it is very difficult to believe, they must needs be very fluid to be able to pass the Ring of the *Peritonæum*. But be they solid or fluid, what good can be expected from the use of Emollients ? They

can serve to no other Purpose, but to procure a still greater Descent both of Wind and Excrements, since by mollifying the Fibres, they must Cause a greater Dilatation of the Part, and so increase its Size and Capacity: The more the Part is distended, the more will the Pores be open'd, and the Air will get in with Ease, and inflate the Intestine as far as the Purse which holds it will permit, and the Strangulation will be increased in Proportion as the size of the *Scrotum* is augmented.

Wounds of the *Abdomen*, through which the Intestines force themselves, shew us, that as soon as the Air once touches them, they enlarge to such a Size, that we are obliged to proceed to the Operation, and likewise to make Punctures in the Intestines, to discharge the included Air.

'Tis therefore without any Foundation that Emollients are made use of, where it is not the Business either to assuage, relax, or even to molli-

fy; for this Sort of Tumours is not painful; the Surgeon's whole Intention consists in dislodging the Intestine, and making it to re-enter the *Abdomen*.

Of all the Parts of the Body there is none which is more easily stretched or contracted, than the *Scrotum*; it is a Sort of Characteristic of the good or bad Disposition of the Body: In Diseases and Indispositions it is relax'd, and in Health it is pursed up and contracted; continued Labour and Fatigue will cause it to be relaxed, by a Sort of Exhaustion of Strength; but it shrinks up again upon Rest, or the Contact of cold Air.

It appears then, as has been said, that the Muscles of this Part are not like the other Muscles of the voluntary Organs, being no other than a kind of Membrane which envelops the *Scrotum* like a Purse; it is particular in its Kind, and composed of a Multitude of straight and hollow Fibres,

bres, which have the Springiness of so many little Muscles. I shall take Occasion hereafter to explain the Mechanism of this Springiness, according to the Notions I have conceiv'd of it. Having thus settled the Fa-brick and Nature of the Part, and having rejected as pernicious, the use of Emollients, I am now to speak of the Method which I have followed and practis'd above five and thirty Years, and always with Success.

I was discouraged from the Use of Emollients, and undeceiv'd by the sad Effects which I saw them produce; after which I considered that the hot Fomentations commonly made use of in the Cure of these Disorders, serve only to dilate the Vessels and Tubes, which carry the Blood and Liquors, thereby augmenting their Size, and driving the Humours thither.

I consider'd, that when a Part is under the Circumstance of an Atrophy, 'tis common to foment it, to
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chaff and rub it, that so its Pores may be open'd, and the nutritious Juice imbibed.

I have observ'd, that all Endeavours to reduce the Intestine by the Hands, when the *Scrotum* is extremely large, serve only to bruise the Part, and increase the Size, for this Management is a sort of Friction.

I became then of Opinion, that to cure this Complaint, it was necessary to act the Counterpart of all this, and that Astringents, or Things extremely cold, might produce a favourable Effect.

There are few People who from their own Experience, can be ignorant that the *Scrotum* is relax'd in a hot Season, and that cold Air, or any other cold Thing, does immediately cause it to contract and be knit up together.

When therefore I am called in Time, I use Astringents of the first Class, such as Allum, Gall-nuts, Bistort, Bark and Flowers of Pomegranates,

granates, Cypress-nuts, Sal Armoniac, in Smith's Forge-water, or in rough Wine mixed with a little Vinegar; these being bruised and boiled together, I apply the Decoction, rather cold than hot, with a new Sponge.

But, as no Time is to be lost in these Disorders, and since whilst the Remedy is preparing, a Mortification may come on, by the Compression and Ligature which is made upon the Vessels, it will be necessary to apply with all Expedition, either Sponges, if they are at Hand, or double Linen Cloths dipp'd in the coldest Water that is to be had, or Ice if it can be procured, may be made use of whilst the Remedy is getting ready.

I have oftentimes found that cold Water alone would suffice, but in case the Reduction was difficult to accomplish, it would then have been necessary to have recourse to Astringents, though I never found my self under this Necessity. If cold Water be apply'd, it must be always changed

changed before it grows warm on the Part.

The Patient should be so situated, that his Head and Body should fall backwards, and the Part affected, as likewise the Thighs, be elevated: The Pressure made on the Part should be very moderate.

He should use no other Sustenance but good Broths and Wine at proper Intervals.

He should not be placed in a Chamber that is too hot, before the Reduction be compleated.

If the Disorder be attended with Pain, and there be Symptoms of a *Plethora*, yet Bleeding, in this Case, is useless, as are likewise Purges and Clysters.

A good Ligature will be necessary after the Reduction; for want of a Truss or Bandage, which should be kept on Day and Night, the Patient will be continually liable to a Relapse.

I said,

138 *The Hospital Surgeon.*

I said, *when I am called in Time*; for if the Strangulation has continued any Time, as a Day for Instance, the Part will certainly be gangreen'd, altho' there be no external Mark or Appearance of it: In this Case all Applications are insignificant, and the Surgeon and his Remedy will both be sure to be condemn'd, tho' in Reality, neither of them are culpable, or any ways contributing to the Patient's Death.

If what I have conceived of the Mechanism of Astringents be just, which I shall leave to the Decision of the Learned, I shall not be backward in explaining it according to the small Light I have of the Matter. It is the Property of hot Things to dilate, and the Property of cold Things to contract: Now be they Astringents, or be it cold Water that is apply'd, both the one and the other must occasion a Contraction of the Fibres in the whole Part: This Contraction produces a Pressure upon the Blood-

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vessels,

vessels, and especially upon the Arteries, and the Vessels being thereby diminish'd in Size, the Blood, the Spirits, and other Liquors receive a Shock, which forces the Blood to mount with a great Velocity into the superior Vessels, and the more subtile Parts of the Liquors, together with the Spirits, are push'd with Rapidity, and so enter the Canals which are nearest at Hand, and fittest to receive them. Where these nearest Canals are the hollow Fibres of the Membrane, or of the Muscles if you please, which have *Anastomoses* with the Vessels, they become tumid, replete and shortned, in the least Space of Time; and the *Scrotum* diminishes discernibly in Size, and knits up; the Ligature at the annular Perforation is relaxed, and the Intestine, being press'd by a Multitude of small Muscles, whose Force is continually increased as they shorten in length, must give way to the Pressure, and return into the *Abdomen*.

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The Expedition with which this Reduction is effected, is really surprizing: What makes me believe still more and more, that the Fibres are distended with Spirits, or something like them, in this quick Repletion, is that the Liquors could not enter the small Cavities but in a much longer Time.

If a Person will give himself the Trouble to consider this Operation mechanically; he must compare each Muscle to a Hand which is clench'd, and which is assisted and supported by a Multitude of others which are contiguous to each other, and join their Forces, and at one and the same Time, as with a general Consent, do all equally shorten and endeavour to recede from their Origins and Insertions. They form a kind of Purse which contracts every where alike, and that continually and equally. If one considers all these Things, it will not be difficult to conceive how Nature produces so salutary and
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so surprizing an Effect, when she is properly assisted.

It is likewise worthy of Observation, that the dragging upon the annular Perforation, or the Production of the *Peritonæum*, by which the Nerves and Blood-vessels are in a manner tied up, is occasion'd by the Dilatation, and violent Tension of the *Membrana vaginalis*, which is a Continuation of the *Peritonæum*, in which the Intestine is lodged: That this violent Tension cannot happen without pulling downwards the *Peritonæum*, which by compressing the Intestine, pushes it more and more into the *Scrotum*: That the Fibres of that Membrane of the *Scrotum* called *Cremaster*, by the violent Dilatation which they undergo, being drawn downwards, cause a very strong Compression upon all the Vessels which pass the annular Hole, which must occasion a Contusion, a Tumult of the Spirits, and finally, an Inflammation and Gangrene of the Parts compress'd. That

That the first Intention should be to correct the Symptoms: That the Application of cold Things and Astringents, is the most ready and certain Remedy which can be made use of, provided it be done in Time.

What has been said hitherto must evince the Necessity of unbinding, disengaging, and opening the Passage through which the Intestine is to be reduced, and point out the Remedies and Means which may be depended upon, as likewise those which would be unprofitable and pernicious; shewing at the same time, that those which I have recommended are supported both by Reason and Experience, and that the Method which I would have rejected, is an old trite Path, which Reason disdains to tread in, and which leads to a pernicious End.

For, in short, what Foundation is there for the Use of Emollients? What is it that wants softening? Is it the Wind that is pent up in the *Scrotum*?

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In my Tract of Wounds in the Breast, I relate a Conversation which I had with M. *Eliot*, first Surgeon to the King of *Portugal*. After a good deal of Talk on various Subjects, we happen'd to say something of the Descent of the Intestine into the *Scrotum*, and I begg'd him to inform me of his Manner of reducing it.

He told me ingenuously, that when his Hands prov'd ineffectual in getting it back into the *Abdomen*, that then he had recourse to Emollients.

I represented to him the Mischief and Usefulness of this Method on the Reasons which I lay down here: I explain'd to him my own Manner, and my Remedies, together with their mechanical Action, which he listened to with Attention: He took in my Reasons so fully, and found them to be so well grounded, that he confess'd himself to have been hitherto in the wrong; and told me that it gave him no small Degree of Confusion to perceive

ceive that he had been so long ignorant of a Thing so advantageous, and so rationally supported.

But it may be urged, that there may be Excrements fallen into the *Scrotum*, which it will be expedient to mollify.

Though I deny that this can possibly happen, yet for once I'll suppose it so, and that they may be softened by Emollients ; what Advantage will be obtained by all this?

The more liquid they are render'd, the more Space will they take up ; and so the Size of the *Scrotum* will be augmented, and consequently the Strangulation, and the Ligature ; the Excrements still remaining in the same Place.

I always did believe, and I am still of the same Opinion, that it is utterly impossible that any Excrements should pass into the *Scrotum* in a Descent of the Intestine : The Passage is too straight, and the Size of the Intestine is but over sufficient to fill
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it up, considering that it is already possess'd of the Vessels which lead to the Testicles.

In order for Excrements to pass through the Ring or Production of the *Peritonæum*, it is necessary that it should be rent, or torn open, which cannot happen but from some external Cause, I mean by a Solution of Continuity made with some sharp Instrument.

If only the Quantity of a Hazel-nut of solid or fluid Excrements be in the Intestine, it will be sufficient to hinder its Descent, by forming a kind of Button, which, resting upon the Ring, will be an Obstacle to the Fall, and if the Intestine be fallen into the *Scrotum*, it is then impossible that any Thing at all should pass the Ring; for the Fibres of the Membranes, in lengthening, draw downwards, and so close up the Ring, and occasion, in a very short Time, a Ligature which intercepts the Blood and Spirits in their Passage; and

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146 *The Hospital Surgeon.*

this is the immediate Cause of the Mortification.

Some one may perhaps averr that he has seen such a Thing: I can believe it too ; but then it must be after the Patient's Death, when the *Sphacelus* shall have occasion'd a Decay of the Parts affected, the Ring, as well as other Parts of the Body being also in a State of Relaxation after the Separation of the vital Principle: In this Circumstance, the Excrements may be convey'd into the *Scrotum*, the Passage of the *Anus* being occluded.

Finally, to close up this Treatise, which is longer than I design'd it, if one would attempt the Reduction of the Intestine with Success, it will be previously necessary to restore the Elasticity which those small Muscles have lost ; for it is those alone to whom the Glory of the Cure will be due.

No Remedies but cold Applications and Astringents can produce
this

this Effect, by giving them their former Vigour.

The Disorder which I have now been treating about, leads me to the *Sarcocoele*, which happens also in the *Scrotum*, and oppresses the Testicles. This is likewise generally managed with Emollients; and I can't say, but they may be more convenient here, than in the former Case, especially at first, by exciting a gentle Perspiration on the Part.

But let it be considered, that they are the Vessels which carry the nutritious Juice, whose Orifices are relaxed and dilated by some external Cause, as a Stroke, a Fall, Overstraining, Bruises, or venereal Disorders.

That these Juices are extravasated between the Membranes; that if the Extravasation continues, the Tumour must increase; that it is not painful, because the Humours which run out at the Part are neither acrid nor vitiated; that it is only the Quantity

of them, which, by distending the Membranes, and compressing the Part, is capable of producing Sensibility and Pain; for it forms a kind of Flesh, which is the Reason why it is called *Sarcocele*.

I believe therefore that an Astringent, applied forthwith, would be of more Service than an Emollient, to contract the Orifices of the dilated Vessels; and by causing an Expression upon the Part, to give a retrograde Motion to the overflowing Liquors, and so restore with ease the Elasticity of the Fibres, and procure them the Solidity which was lost before.

It is very certain, that if the Parts of our Body could always retain their natural Elasticity, that then there would be no Extravasations; it is also most true, that they are not relaxing Remedies which are capable of restoring it when it is lost.

In a Word, if the *Sarcocele* be of long continuance, and the Tumour

large and hard, nothing but Dissolvents, taken internally, and applied to the Part will be capable of destroying it; and this Conduct I have used with constant Success in such Complaints.

As to the *Iliac* Passion which comes on upon a Descent of the Intestine, which is accompanied with a Strangulation; it must be consider'd that the Ligature which is made at the Ring of the *Peritonæum*, closes upon the Intestine in such a Manner, that the animal Spirits, which move in the circular Fibres, as in a Tube wound round the Intestines, meet with an Obstacle which hinders them from continuing their Road downwards, by the peristaltick Motion, and they are turned back by a kind of Repercussion: They move upwards, and so produce the antiperistaltick Motion, which brings on the miserable Symptoms of the *Iliac* Passion: When this Disorder happens without the Descent of the Intestine, the same animal Spirits meet with Obstacles in the

same circular Fibres, which produces the same Symptoms for the same Reasons : But in this Case it will be the best way to administer a pretty considerable Dose of crude Mercury, as two, three, or four Pounds, to be swallow'd by the Mouth : Nothing is so well adapted to restore the peristaltick Motion, and appease the Tumult of the Spirits : It is the only salutary Remedy that can be thought on : I can with Truth assert that it never once fail'd me.

A Captain at *Briançon* was brought to the utmost Extremity by this cruciating Disorder ; he was beyond all Hopes of Recovery, and had taken several Medicines to no manner of Purpose : I made him swallow two Pounds of crude Mercury, though his Physician opposed it ; upon which his cruel Pain ceased forthwith, but the Mercury remained in his Body six whole Days, which determined me to give him two Pounds more : However it came away of itself, without

out occasioning one bad Symptom during the whole time of its stay in the Intestines: Once at *Pignerol* I was obliged to give it as far as five Pounds, to drive out three Pounds that would not stir of itself, and the Patient was perfectly cured, without perceiving any Inconveniency from this large Quantity of Mercury. This may serve to undeceive those who are scrupulous of giving Mercury in this Manner; for I have been in many Places where I have seen Patients perish for want of making use of this only salutary Method.

To come to a Conclusion then, the *Sarcocoele* is a fleshy Excrecence, which my Dissolvent softens and dissolves; and it never fail'd to do so; which induces me to believe, that the same Remedy must produce the same Effect on *Polypus's*, whether in the Heart, Nose, or other Parts of the Body, since these are fleshy Excrecences like the *Sarcocoele*, produced by an Abundance of nutritious Juice

which has escaped out of the Vessels that were to convey it ; and which, according to the Places wherein they are formed, take different Shapes : As in the *Scrotum* they are round, in the Heart and Nose they are long and slender : In the Heart they have a continual Freedom to disclose themselves : From the contractile Motion of the Heart this soft Flesh is moulded into a flat long Shape ; and in the Nose it puts on the exact Figure of the Nostrils : I have known these *Polypus's* destroy'd by a long and slender Diet, by which the Patients were in a manner exhausted.

But crude Mercury judiciously administred, will put an End to them with more Ease and more Expedition, for the Reasons which I have alledged with regard to *Schirrbus's* and Tumours.

Of Injections.

I AM persuaded, Sir, that when you enter'd upon the *Italian* Translation of my Book, you well knew that you had engaged in a troublesome Task; which gives me a Fondness to imagine that the Thing has really some Value in it; and I am the more induced to pursue this Conceit, because it has had the good Luck to pass through five Editions in *Holland*, and is translated into the *German*, *Portuguese* and *Spanish* Tongues, which I think a sufficient Alternative for the cold Reception it has met with in my own Country.

I am the less astonish'd at this, when I reflect, that the very Name of an Author is horrible to those whose Sentiments he opposes, and whose Practice he condemns.

Yet I have not bound any Man down to an implicit Belief of my Opinions; this would be so unjust a

154 *The Hospital Surgeon.*

Piece of Tyranny as no one should submit to. But on the other Hand, to hold out obstinately against both Reason and practical Experience, without bringing any Reasons or Proofs at all, favours in a high Degree of stubborn Malice. I come now, Sir, to the Fact which is the Subject of this Letter, leaving those Gentlemen to their Repose, which they'll be sure to cheat themselves of, as often as they attempt to disturb that of their Neighbours. I was a few Days since in a Consultation, where it was strenuously maintained, that the Use of Injections was both beneficial and necessary in deep Wounds, cavernous Abscesses, *Sinus's*, *Fistula's*, &c. for as much as they mundify, and clear, and correct the ill Quality of the Matter and *Pus*, and by washing it away, hinder the Alteration which the containing Parts would suffer by its stay. Fine and well sounding Words! Cant of the old School! Mere golden Dreams!

I have said before, that *Pus* is an Extract of the Blood and the nutritious Juices ; and that such as is the Blood, such will the *Pus* be.

If the Blood be well condition'd, the more laudable and balsamick will it be, and will the sooner bring Wounds, Abscesses and Ulcers to a perfect Cure.

If in this Case, an Injection of any Sort be made use of, it will dilute this Balm, weaken it, and alter it, so that it shall lose all its balsamick Virtue, and become unuseful and pernicious.

By moistening the Orifices of the small Tubes and Vessels, which lye open throughout the whole Extent of the Cavity, they will be softened and relaxed, and so their Elasticity and Firmness will be destroy'd ; whence will ensue an involuntary Oozing of the Liquors which they contain, and which before they were able to retain ; and the Consequences of all this will

156 *The Hospital Surgeon.*

be an extravagant Suppuration, and a tedious Cure.

If the Oozings last any Time, the Blood will be robbed of its Fluidity, and the Patient will be extenuated and exhausted. The more any Thing is moisten'd, where a Reunion is intended, the less will it incarnate. Injections will dissipate the Spirits with which the animated Parts are replete, and carry off with themselves that Balm which only and alone is able to reunite the ulcerated Parts.

The Injection, by dilating the Confines of the Cavity into which it is forced, increases the Solution of Continuity, and if it be suffer'd to remain in the Cavity, which is usually done by stopping its Orifice, it insinuates itself into the Interstices of the Muscles, and occasions *Sinus's*: And the Liquor being inclosed quite hot, it rarefies and dissolves the Blood, and stimulates, irritates and produces Pain.

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The larger the Size of the Cavity is, with the less Difficulty will the Air have access to it, and this is sufficient to bring about Alterations, Coagulations, Dissipations, Corruptions, &c.

When, after the Injection has remain'd for a while in the Cavity, it is discharged out again, and the Air supplies its Place; add to this, that by squeezing the Part, to prevent any Thing from remaining behind, the Fibres are bruised and mangled, which will end in their Suppuration: I have seen this Method practised many a time, much to my Uneasiness and the Patient's Injury. If the Blood be ill conditioned, the Flesh will be soft and flabby, the Part weak, and the Fibres without Elasticity.

When an Injection is thrown in, whether it be into a Wound, or into an Ulcer, meeting but with little Resistance, it will penetrate, lacerate, make Caverns, and rob the Part of that little Quantity of Heat and Spirits

rits with which it was comforted before, without being capable of correcting in the least the ill Quality of the Liquors: In this Case the Sensation of the Parts is obtunded, and the Insensibility is still increased by the Injection; the whole Member or Part being in the greatest Danger of falling into a total Putrefaction.

The Liquor which is syringed in, and the incessant Oozing of Matter, turn down the Extremities of the carnos Fibres, so that they lye one upon another, grow sleek, hard, and at last form a *Callus*. Thus are sinuous and fistulous Cavities produced.

These Cavities are always large and deep, and their Orifices narrow and straight; this Accident is inevitable where the Tent is made use of, and I may venture to say it seldom happens without it.

I am so far convinced of this, that ever since I have thrown them aside, I have never met with a Cavern or *Sinus*; nor a Bag in Abscesses, Wounds,

Wounds, or Ulcers, notwithstanding Fevers and the ill Habits of Body which the Patients were under: Which makes me conclude, that these Accidents arise, not from particular Temperaments, but from a bad Manner of Dressing.

These, Sir, were partly the Reasons which I premised, in the Dispute I was obliged to enter into; but such is the Force of Custom, that they met with a very small Share of Approbation.

The same Reasons which prevail'd upon me to abandon Tents, determined me likewise to banish Injections out of my Practice. One cannot in Truth discard the one without discarding the other; for by discusing the Tent, you prevent the Bags, *Sinus's* and Caverns in which Injections seem necessary. According to my own Way of dressing, in whatsoever Part of the Body the Wound be, I never make use of them; they are not only useless but pernicious. If the Ori-
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fice be sufficiently enlarged, nothing can stay behind, and the natural Elasticity of the Parts will be able to drive out every thing that is noxious and superfluous, which will be no ways impeded in its Passage, having so free an Out-let.

In large Abscesses I follow the same Method. When the opening is sufficiently large, and all the Contents are evacuated, the Parts which before were forced one from another, will begin to approach, and by uniting will cause a gentle Compression, sufficient to squeeze out the Matter which remains in the Flesh, which will ooze away incessantly through the Out-let which is not stuffed up by any foreign Body. This gentle and natural Mechanism makes room for the Balm of the Blood, which in a short Time constitutes a new Range of Fibres, and repairs the Loss which the Parts suffer'd through Distention, Putrefaction and Suppuration.

Such

- Such is Nature's way of Working, when she is not indiscreetly molested in her Operations.

These Reasons, and this Practice are applicable to all external Disorders where Surgery has any thing to do, without a tedious Enumeration of Particulars.

If Facts and Examples are capable of convincing, I refer to the first *Paris* Edition of my former Work, *Pag.* 50, 209, 268, and 272. And *Pag.* 50, 216, 275, and 278, of the second Edition.

I cannot without a Degree of Melancholly, call to Mind the many wounded Persons which I dress'd in my youthful Days, being in the King's Hospitals in *Germany* in 1675, 1676, and 1678, at which time I, like other Folks, made use of Tents and Injections, by which all my Cures were prolonged, and accompanied with Pains, and ill Symptoms which often reduced me to the sad Necessity of Amputating, which might have been avoided

avoided by leaving off this cruel Method. Nothing was more common than *Fistula's* happening to those whose Breasts had been washed with these unworthy Injections, and were afterwards so cruelly bung'd up.

On the other Hand, I bless the Day which undeceived me, and put me out of Conceit with Tents and Syringes, and gave me the Idea of such a Chirurgery as is gentle and without Cruelty; which spares both Life and Limbs, and cures without Hazard, Fatigue, or Pain.

I could not, Sir, refrain sending you this short Narrative, discovering to you, like a Friend, the Bottom of my Heart, which is every Day more and more sensibly touch'd with a high Esteem of you; as I discern in you a Sympathy that favours my Method, and will protect my Work: I cannot say that any one of my other Translators have acted so generous a Part, when I call to Mind your Care to enrich it with learned Reflexions; the

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the fine and numerous Productions of your Capacity, the eloquent and judicious Replies which you have made to my Adversaries, and the considerable Expence which all this has occasioned you.

These are unquestionable Proofs of your Zeal, and of the Charity you entertain for your Neighbour. And they are no less Marks of your discerning Judgment: Your Eyes could at once discover the Goodness of this Method, and you finish'd the Translation without being sollicitated to it by the Author. I knew nothing of the Matter 'till I was surprized and charmed with it, and it has laid me under the Obligation of being inviolably,

Sir, &c.

of

*Of the WOUNDS of DOGS;
which are cured by Licking.*

AMONG the Objections which have been started upon the different Circumstances which I observe in the dressing of Wounds ; some learned Professors in *Italy* have written to my celebrated Translator M. *Sancaffani*, that I would lay it down as a Maxim, that Air was a capital Enemy to Wounds : However they had observ'd that Dogs did frequently cure themselves by Licking, notwithstanding that their Wounds were all the while exposed to the Injuries of the Air ; and this, they conceived, was enough to destroy my Opinion.

M. *Sancaffani* advertised me of this in Writing. He was willing to have likewise the Sentiments of several other Professors, who all agreed in their Answer, which may be seen in
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his *Magatus*, a considerable Work, which treats entirely of the Cure of Wounds according to my Method. In it will be inserted several Letters of mine, being Answers to several Queries which were sent me. I believe they are already in the Press, and therefore I shall here give only the Answer which I sent him, to the Question in Debate, with a few Additions which I have made to it since.

By way of answering the Query which you sent me, Sir, concerning the Wounds of Dogs, which are cured, notwithstanding they are exposed to the Injuries of the Air, by bare Licking ; let me have the Honour to tell you in the first Place, that I am by no Means of the R. Father *Cabco's* Opinion, tho' I am unwilling to wage War with him upon that Score ; which yet I think I might safely do. I shall content my self with only observing to you, what to me seems highly probable. The Softness, which is so very remarkable
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on the Tongues of Dogs, shews the Nature of the Humour which moistens them, according to all Appearances, drawn likewise from the Effects which it produces, it must be imagined, to be an oily, soft, and balsamick Liquor, prepared in the papillary Glands, Fibres, and Pores of the Tongue, which is the Seat and Organ of Taste, and in Dogs is of a particular Structure, whereby it filters this oily Juice, which is the only Specifick for the Cure of Wounds in these Animals, as likewise of other Disorders that happen to their Skin.

Now, when they lick their Wounds, which they do very frequently, they smear and cover them over with this oleous Humour, and consequently defend them from the Injuries of the Air, which cannot penetrate through this Oil, which being at the same time of a very balsamick Nature, their Wounds must be heal'd very soon, as they are guarded from the Injuries of the Air, and from foreign Bodies.

That

That Oil is in a Manner impene-
trable to Air, there are very sensible
Proofs.

When Wine is to be transported
from one Country to another in Glas-
bottles; to defend it from the Injury
of the Air, 'tis customary to pour in
a little Oil, which resting on it in
the upper Part of the Neck, keeps
it from altering, or growing eager.

This evidently shews, that Air
cannot penetrate Oil. If a Worm
be voided from a human Body, and
does yet retain both Life and Mo-
tion; pass but a Feather dipp'd in
Oil, over its Body, and it dies in a
Moment; the Oil stopping up the
Chinks which are scatter'd all over
the Surface of the Body in great
Numbers, and obstructing the Inlet
of the Air which is necessary to the
Creature's Respiration.

Those who have well examined the
Structure of Worms of the human
Body, never met with a Remedy
that would destroy them with
greater

greater Expedition, than Nut-oil, which is less porous, and less pervious to Air than any other: This the Painters are very sensible of, who have found by Experience, that Colours mixed up with Nut-oil, will retain an unalterable Lustre for ever. Nature, in lieu of Reason, has furnish'd brute Animals with an Instinct which teaches them what will be of help to them in their Preservation, and to this is annexed a kind of Industry; as in Dogs, which when they happen to be wounded in such Parts as they cannot reach with their Tongue, lick their Paws, and rub them frequently over the aggrieved Parts, and so cure them: They must certainly have some Knowledge of the Benefit and Virtue of their *Saliva*.

It may be objected to me, that Oil is so far from contributing to the Cure of Wounds, that it is commonly made use of to prevent Reunion; as in order to keep the Orifice of the Vein open in Bleeding, 'tis usual to
dip

dip the Point of the Lancet in Oil ; this is beyond dispute : But let the same Oil be boil'd with Wine, to a total Consumption of the Wine, the remaining Oil will be found to be a very powerful and balsamick Vulnerary : In like manner the Oil which exsudes from the Tongues of Dogs, is extracted from their Blood, prepared, strained and filtred in the Glands ; by which it is so far subtilised and purified as to become an oleous Balsam, capable of healing not only the Wounds and Ulcers of Dogs, but likewise Wounds, and chancrous and cavernous Ulcers of human Bodies.

I am of Opinion, that if we would take the Pains to examine attentively the Nature of the various Juices which are prepared in Animals, we should find there would be hardly one without a Remedy always at hand, sufficient to cure its own Wounds : And that every Animal carries in it self a specifick Balsam for this Effect :

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Men

Men have Ear-wax, which is a thick Oil, and an excellent Balsam to cure their Wounds.

Spittle, Urine, and even the Sweat of sound Persons, are not without their Use and Merit: The Excrements of Animals have a volatile Part of excellent Service in the Cure of a great Number of Maladies.

Thus you perceive, Sir, the Drift of my Notions: If I reason justly, I think I prove sufficiently the Uselessness of Tents, and the Goodness of the Method which I publish: Wounds of Animals which are not mortal, are cured by the sole Assistance of Nature, without being attended with any bad Symptoms; which happens not to Man, through a Multitude of useless and pernicious Circumstances, old and false Maxims, and Obstinacy of Surgeons. These are Misfortunes which arise from sucking in bad Milk, and neglecting the pursuit of Truth. Finally, If neither a small Share of Rhetorick, nor a long Train of Experience,

perience, have the Power of Persuading, *Æsop* shall be conjured up again; he shall make the Beasts give the History of their Cures, and tell us the Means they make Use of to accomplish them with so much Facility; and then these Men will be confounded at their own Errors and Ignorance: That ingenious Slave, of glorious Memory, shall put the obstinate Herd to the Blush.

*Of penetrating Wounds of
the Breast.*

M. *Sancassany*, Counsellor and first Physician to *M. le Duc de Guastale*, who took the Pains to translate my former Work into *Italian*, under the Title of *Chiron in Campo*, wrote to me some Years ago, that *M. Viti*, Professor of Physick at *Peruge*, had taken a liking to my Method of dressing Wounds without Tents, excepting those of the *Thorax*, which as he would have it, could never be brought to a Cure without the use of Tents.

I return'd an Answer to these Gentlemen, which though it was written in haste, yet my Reasons were received, and approved of: I was dissatisfied at the immethodical Way in which my Letter, through haste, was penn'd, and have since looked it over, taking away some Things, and
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adding others of greater Importance, 'till at last I thought 'twould be the best Way to write it over a-new, that it might be of some Service by way of Instruction to young Surgeons.

The Method I chose to observe in this Tract, is, to distinguish penetrating Wounds of the Breast into three Sorts.

To shew how they are treated according to the ancient Method; and

To shew how they are treated according to the Method which Experience has taught me.

The first, by Gun-shot, passing into the Lungs.

The second, by some Instrument cutting and penetrating likewise into the Lungs, the Blood issuing out at the Orifice.

The third, opening only the Artery, or the Vein lying in the channelling of each Rib, with an Hemorrhage, made likewise with a keen Instrument.

174 *The Hospital Surgeon.*

Let us imagine then a Ball to have pass'd through the Breast, and to have pierced the Lungs: In this Case it must make a Solution of Continuity both at its going in, and at its going out.

When it passes into the Lungs, it causes a Contusion in the whole Tract of its Passage, as also a Disorder among the Vessels and the Fibres, which by its Activity and Motion it doubles down one upon another.

It is this doubling down of the Fibres, which is the Cause that this sort of Wounds is not ordinarily attended with any Hemorrhage, which has made several Authors believe that the Ball in its Passage, forms an Escarr. This Opinion I have opposed in a little Tract by itself.

But, when the Course of the Blood and the Liquors has been stopped throughout the whole Extent of the Ball's Passage for some Days together, at last the more subtile Parts of the Liquors do find a Vent, and so begin

gin to mollify the Fibres which are doubled down; and the Motion of the Blood endeavouring to recover its Course, finding but a very small Resistance, relieves by Degrees the Fibres so doubled down, and then the Orifices of the ulcerated Vessels dilate, and disgorge both Blood and Lymph into the Passage. This is what happens upon that which is improperly called the falling off of the Escarr.

This issuing out of Blood and Lymph will be greater or less according to the Size of the Ball, and of the Vessels that are wounded. But be it more or be it less, it is always deposited in the Passage of the Ball. If then the Orifices of such Wounds are bung'd up with Tents, all that shall be deposited in this small Space will be detain'd there, compress'd, and agitated by the continual Motion of the Lungs.

If the Lungs adhere to the Ribs, as it sometimes happens, these Mat-

ters having no way to escape, and continually encreasing, will occasion a Tension and Weight upon the Lungs which must hinder Respiration. Here the only way of relieving the Patient will be to dress him often, and so to drain off the abundant Matter; this gives great Encouragement to the Surgeon, as well as Relief to the Patient.

If the Lungs do not adhere, all that is deposited in the Passage, and all that escapes the Vessels will be lodged upon the Diaphragm; which when it amounts to a certain Quantity, the Spring in this Part will be in a Manner destroy'd, and Respiration be render'd extremely difficult: And to give the Patient Ease, it will be necessary to evacuate all the extravasated Matter by dressing. In this Case, whole Porringers full will be discharged, to the great Astonishment of the Surgeon, and Joy of the Assistants, who perceive the Patient to breathe very freely after so bene-

beneficial a Dressing. But in this Case, as well as in the foregoing, the Wounds being dress'd with Tents, the Quantity of the Matter encreases abundantly every Day, and becomes a Torrent which carries off all the Humidity of the Body, and kills the Patient by exhausting him ; It is easy to discern that the Pus, or the Liquors which escape out of the open Vessels, by continuing in the Passage from the Time of one dressing to that of another, must all this while be in a State of Fermentation, Alteration, or Currupcion, being stopp'd in by Tents.

The Substance of the Lungs being contracted and compress'd at every Inspiration, must occasion a prodigious Extravasation of the Liquors, for the Canals or Orifices of the Vessels are dilated, relaxed, and altered ; if then the Lungs do adhere, as I have said, either the Patient will be suffocated, or he must be dress'd very often.

The more frequent the Dressings are, the more abundant will the Matter be ; for besides that which is express'd out of the Lungs, it must be consider'd, that Tents being very contiguous to the Parts, the Tubes which occupy the whole Extent whereto the Tent is contiguous, do moisten it, filtering their Liquors through the said Tent : Whoever doubts of this, may examine Tents new extracted, and they shall find them soak'd through and through, be they ever so thick or solid.

The inconvenient and fatiguing Position in which one is obliged to place the Patient at the time of each Dressing, to let the *Pus* run out when the Wound is any thing high, added to these abundant Evacuations, is sufficient to exhaust the Man, and entirely extinguish his vital Strength.

Frequent Dressings and Tents have also another Inconveniency accompanying them, which deserves Reflexion : I mean the Access of Air into the
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the Lungs, for I have always look'd upon it as the capital Enemy of Wounds of the Head, the Breast, the lower Belly, the Articulations, and the nervous Parts.

Air however enters into the Lungs when they are not wounded, as well as when they are wounded, by way of Respiration.

But then it passes the Mouth and the Nostrils, it is prepared by the Palate, it glides along a Canal of a considerable Extent, I mean the *Asthera Arteria*, it deposits all its acid and acrid Intermixtures in the humid Parts of its Passage, and in the *Bronchia*; it is filtred, prepared, and depurated, before it arrives at the ulcerated Lungs, and so it can do them no Mischief.

On the contrary, it refreshes, comforts, and vivifies them, when there is no foreign Body in the Organs of Respiration, and the Lungs are dilated and contracted without any Uneasiness; 'tis then, that, by
I 6 this

this last Motion, they squeeze out whatever might be stopp'd in the Passage, and thus the Wound is cleansed, and disposed to Re-union, which will be brought about soon, provided Nature be left to act at Liberty, and proper Assistance be given her when she wants it: Air, entering the Breast through the Overtures of Wounds, produces a quite contrary Effect.

It rushes in unalter'd; upon taking away Tents, the Lungs dilating themselves in Inspiration, do pump in the external Air which enters the Breast with Rapidity, and afterwards when the Lungs contract themselves in Expiration, the Air which enter'd by the *Trachea*, meeting with that which was suck'd in at the Wound, a Struggle between them ensues, and the wounded Person is in danger of being suffocated; but I shall say no more about this Accident, which, though it happens not always, yet it sometimes may.

When

When the Air is got into the Cavity through the Wound, it must of necessity be expell'd out again as the Lungs are fill'd with Air, but this being impossible to be effected with the same Expedition that it entered, enough will remain behind to occasion Dissipations, Alterations, Coagulations and Inflammations of the *Pleura*: This Membrane, the Teguments, the Muscles, and the Sides, are often afflicted with the Malady which we call a *Pleuresie*, by the bare Action of cold Air, when the Pores are open: What Mischiefs then may it not produce, when being not only cold, but crude and loaded with Acids, it is contiguous to all these Parts at once, without any Thing to intercept it; this happening twice every Day?

It appears then, that by the Use of Tents, Air must be introduced into the Cavity, which by degrees produces insuperable Symptoms; they likewise bung up the Matter from one Dressing

Dressing to another, which Space of Time in a Part so warm as the Breast, is sufficient to render the *Pus* eager, which must cause a Stimulation upon the Fibres of the whole Part wherein it is contain'd: This Stimulation brings on a Contraction, the Contraction a Stop, and the Stop, whereby the Course of Liquors is interrupted, brings on an Inundation of Blood and Lymph; then follow Imposthumes, Corruption, Inflammation, and sometimes Mortification.

In a Word, the Retension of the Matter alters the Flesh, makes the Bones carious, and engenders Worms which irritate and gnaw the Fibres, thereby occasioning exquisite Pains, and continually enlarging the size of the Cavities that contain them: The End of all which will be either the Death of the Patient, or an incurable *Fistula*.

It is not to be expected that the Matter pent up in the Cavity, can get out at the Orifices of the Wounds; they

they are stopp'd close with Tents kept tight by Dressings and Bandages; and it is only at the times of Dressing that the Patient can be, for a very short Time, reliev'd of the Inconveniency of the foreign Body.

The Success which attends another Manner of Dressing, consists not, as is vulgarly imagined, in any Ceremonies or superstitious Forms of Words: It is entirely owing to sucking the Wounds, whereby Blood, and other Juices that were lodged within, are drawn out, and every thing is cleared away which might corrupt in the Cavity, and consequently nothing is left behind which can prevent a Reunion.

Penetrating Wounds of the Breast, made with a keen Instrument, when dressed with Tents, are for the generality attended with the like Success, and the like Accidents, because the same Method must work the same Effect; however they are more easily cur'd than the foregoing, as I shall endeavour to shew.

Wounds

Wounds made with a cutting Instrument, are accompanied with Hemorrhages, occasioned by opening the Blood-vessels which are spread over the Sides: These Hemorrhages, though they would be otherwise of no great Consequence, do yet bring on great Inconveniencies, if the Wounds are dress'd with Tents.

These Wounds which are not attended with any weight or difficulty of Breathing, are at length affected with these two Symptoms from an indiscreet manner of Dressing.

When a Tent is put into a Wound of this Sort, it is easy to perceive, that by dilating the wounded Parts, it will keep open the Orifices of the Vessels, through which the Blood and the Lymph perpetually issue out; that they must be poured upon the Tent, which will be moisten'd therewith, and from its oblique Position within the Cavity of the Breast the Liquors will filtre through it, and continually be dripping from its Point upon

upon the Diaphragm, occasioning a Weight there which is remov'd at each Dressing, and is mistakenly imagined to proceed from an Ulceration of the Lungs. As long as this Method is continued, the Dripping will last, the Fluid be exhausted, and the Patient consumed, or at least he must put up with an incurable *Fistula*, through the daily Friction of the Tent upon the Fibres, which are caused to unite and form a *Callus* by being doubled back and press'd one upon another: And to say the Truth, *Fistula's* are not to be look'd upon as Matters of Indifference, for they will infallibly bring the Patient into a languishing Condition, and shorten his Days.

If we would carefully examine into Nature, we should find that she is never idle, but is always anxiously employ'd in repairing the several Damages which may accrue to Mankind by the various Accidents of Life; that in the Cure of Wounds, she very
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industriously forms a Woof of small, supple and tenacious Fibres, which by uniting, adhering, and ranging themselves one over another, make a Sort of Net-work, not unlike a Spider's Web: Several of these lying in Plains parallel to each other, do by degrees fill up the vacant Space which a Bullet or a Sword leaves behind it in any Part of the Body; and thus is the lost Substance repair'd, by another Substance which is substituted in its stead, by means of the nutritious Juice, and the balsamick Particles which the Blood constantly supplies.

Nature soon accomplishes all this in the most agreeable Manner, provided she be suffer'd to act at Liberty by herself, and is not any ways oppos'd in her Designs.

But when a foreign Body is introduced into the Orifices of Wounds, whether it be Tent or *Canula*, it hinders the Generation of the aforementioned Woof.

Yet

Yet notwithstanding such an Obstacle to prevent Reunion, Nature, which never ceases to be active, will still be at work upon these small Fibres, which, although they can be of no service in reuniting the divided Parts, which are kept separate from each other by the use of Tents; yet will these very Fibres become united and smooth through the Friction and Compression which they undergo, making a Sort of Lining to the Passage, which is of no less Solidity than the Skin itself. This is a real *Fistula*, which is of very bad Consequence to the Patient, an Expence to Nature, and a Shame to the Surgeon.

If in the Case before us, the Lungs do adhere to the Sides, as often as the Breast dilates, the Lungs must of necessity be push'd against the Extremity of the Tent, its Membrane must suffer a Contusion, be lacerated, and the Lungs be ulcerated; the Matter which drains out at the Extremity of the Tent entering the Substance
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of the Lungs, moistening them, distending them, obstructing their Motion of Dilatation and Expulsion, and rendering Respiration extremely difficult; besides, it may there stagnate and corrupt, and alter the Substance of the Lungs, which by a continual Reception of Liquor will be enlarged, distended, and rent asunder.

These are no imaginary Things, nothing can be more true: A simple Wound brings a Man to his End: The Surgeon sits down easy, and imagines that no one will call his Skill in Question: He follow'd the Method which his Master taught him, and if it would not, 'twas no Fault of his.

What I have hitherto remark'd, shews the Abuse of Tents, and the great Disorders which they produce in Wounds of the Breast.

I am not carried on by a Spirit of Contradiction: My own Eyes alone have convinced me of these Truths on a Multitude of Occasions.

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In my former Work a good while since, I described the gentle and salutary Method which I took, not only in Wounds of the Breast, but of all Parts of the Body; yet several Professors in *Italy* have oblig'd me by Queries and Objections, to answer their Doubts, and illustrate the Theory of this Method, as well as my Abilities would give me leave.

Here I lay down my Method and my Reasons, in such a Stile as Nature, Reason, and long Experience have dictated to me.

I give it then as a Maxim, in penetrating Gun-shot Wounds of the Breast, that the Orifices should be enlarged, without sparing the Skin, not only to destroy their round Figure, but to afford a large and free Passage for the Evacuation of all the extravasated Liquors, so that they may be discharged by draining off, in that Circumstance which is usually called the Falling off of the Escarr: These Orifices should be left free,
without

without Tents or Dofils, and should be cover'd only with large soft Pledgets of fine Lint, Plaisters, &c. The first Day I bleed the Person twice or thrice, according to his Strength, Age, and Fulness of Blood, and by diminishing the Quantity of Blood, I prevent the bad Symptoms which are wont to arise on these Occasions.

I dress the Wounds but seldom, and with as much Expedition as is possible, to hinder the Entrance of Air which might coagulate the extravasated Blood, which would soon then turn to *Pus*; but preserving its Fluidity, it may either issue out at the Orifice, or enter into the Road of Circulation through the Orifices of the Veins, which latter Road it may pursue without any great Difficulty, the Vessels having been exhausted at the several Bleedings, being in a Condition to receive it in, and restore it to its usual Course.

To explain Nature's mechanical Way of Acting, it will be necessary
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to give a Step backwards, and take another View of the Canal which the Ball made in passing into the Lungs, in which the Blood, the Lymph, and the *Pus* are deposited, when the lodged and contused Fibres recover their Position, and come to Suppuration, at which Time it is full and gorged.

As the Substance of the Lungs contracts at every Inspiration, whatsoever Fluid there is in the Canal, or Passage of the Ball, should yield to the Compression, if the Lungs do adhere to the Ribs: This Matter is propelled to the Orifices of the Wounds, which are well disposed to receive it, and give it Passage; being enlarged and cover'd only with Lint, into which it easily insinuates, and passes through it into the exterior Parts of the Dressing; and thus as fast as any Liquor is brought into the Canal by each Compression, it is receiv'd by the Lint, and so passes off, without leaving any Thing that is of

a bad

a bad Quality behind it; Nature acts at full Liberty, and is incessantly at work in reuniting the wounded Parts; and the Balm of the Blood being not alter'd or mix'd with any vicious Juice, the Lungs soon consolidate, as likewise do the other Parts.

When the Lungs do not adhere, the *Pus*, and whatever else distills into the Passage of the Ball at the time of the Resolution of the bruised Fibres, call'd the falling off of the Escarr, at each Contraction of the Lungs, is thrown upon the Diaphragm; because, that whilst the Lungs are contracting, they recede from the Sides, and consequently from the Orifices of the Wounds, and so it must fall into the Cavity; but it is likewise to be observ'd, that the Quantity will be but small if there be no Tents used in the Dressings, because that then there will be little or no Suppuration.

But were the Quantity evacuated into the Cavity ever so great, it would

would of necessity be all expell'd out of the Orifices, were there no Tents; because that in every natural Inspiration the Lungs fill up the whole Capacity of the *Thorax*.

I suppose then a Flowing out of the Liquors, and that the Patient is lying in his Bed: The Motion of the Lungs will move and compress the Fluids which are extravasated in the Breast, and these finding no room whereto they can betake themselves, besides the Orifices of the Wounds, they drain off by Degrees, at each Dilatation of the Lungs, 'till a total Evacuation of them be compleated, which will be in a little Time, as I have frequently observ'd.

To advance this Mechanism to its highest Perfection, and to procure from it the utmost Advantage to the Patient, by working such a Cure as shall seem miraculous; the Patient must be made to lye on one of the Wounds, if there be two, always choosing that which shall be the

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most commodious ; if there be but one, and he can possibly lye on it sometimes, it will soon appear that nothing can remain in the Cavity, which can do any manner of Harm, or oppose Reunion.

This may be put in Practice, when the Orifices of the Wounds are not stopp'd up with Tents, or Lint, for otherwise it is impracticable.

Did the Suppression of Tents in Wounds of the Breast, carry along with it no other Advantage besides this one, it is of so considerable Consequence to the Patient, that every honest Practitioner ought to esteem and encourage it.

It is a Truth establish'd upon good Reason, a sound Theory, and a vast deal of practical Experience, that the Blood, the Pus, the Lymph, &c. extravasated and retained in the Cavities of Wounds, are beyond Contradiction the Cause of almost all the bad Symptoms which arise.

But

But should it so happen, as possibly it may, that the Wound, tho' free, and not bung'd up, should be so painful as not to permit the Patient to lye upon it, then this Obstacle must be surmounted by Art and Industry.

This may be effected by making use of a perforated soft Compress of the Thickness of an Inch or thereabouts: This covering the whole side of the Breast, and having its Aperture directly opposite to the Orifice of the Wound, which, notwithstanding should be cover'd with a slight Dressing, the wounded Person may rest upon his Wound, and pass the Night with tolerable Ease, without being debarr'd of a natural and free Respiration.

If these Methods are put in Practice, the Dressings may be the seldomer repeated, by leaving the sole Conduct of the Cure to Nature, to whom Art has furnish'd out the certain Way of arriving at Success.

Such a Procedure might be advantageous in *Empyema's*, which are sometimes necessary in Wounds of the Breast, even though a small *Canula* were made use of ; for so would a great deal of Time be saved, and a speedy Reunion procured ; and so much have I thought proper to say concerning Gun-shot Wounds.

But when a Wound has been made by a cutting Instrument which has penetrated into the Substance of the Lungs ; the Blood usually issues out at the Mouth and Nose, and the Case is frequently attended with a Fever, a Difficulty of Breathing, and sometimes a Weight.

Here my first and chief Intention is to unload and empty the Blood-vessels by frequent Bleedings, having regard to the Age, Plenitude, and Disposition of the Patient.

I never could discover so easy and certain a Way of gaining my End ; for by expeditiously destroying the Plenitude of the Vessels, I prevent
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an Extravasation of Blood ; the Hemorrhage at the Mouth gradually decreases, and is quite over by the fourth or fifth Day, and the Patient is cured by the seventh.

As for the Wound of the Teguments, I regard it as a simple Excoriation, and order it to be dress'd with a simple Plaster, cover'd with a Compress and a Bandage, to favour the Reunion, to cover it, and hinder the Ingress of Air into the Breast.

This Practice seems somewhat rash and presumptuous ; and for fifty seven or fifty eight Years that I have acted as a Surgeon, I never met with any Person that made use of it ; however with me it was ever attended with happy Success.

If the *Aorta* or *Vena Cava* be open'd, no Method can be taken to rescue the Patient from Death ; there will not be time enough even to apply a Dressing ; it is not therefore to be expected that favourable Consequences

quences can be drawn from Wounds of this Sort, nor that any Method can be establish'd about them.

That I may avoid Repetitions concerning the ill Effects which Tents produce in Wounds of the Breast, made with a cutting Instrument: Having shewn that in Gun-shot Wounds, they cannot be used without a terrible Consequence, I will only infer, that in these Cases, they would be still more pernicious, as they would encrease the Hemorrhage by keeping open, and dilating the Mouths of the wounded Vessels, so that the Liquors will filtre in large Quantities through the Tent, and distill into the Breast; and if they run out through the Wound, into the Substance of the Lungs, they will there occasion Wastings, large Suppurations, and Rottenness, considering the Delicateness of the *Parenchyma*, which is relaxed and altered, whereby the Springiness of this Part is utterly destroy'd; from which nothing

thing but Death, or an incurable *Fistula*, can reasonably be expected; all this to me appears fully as demonstrative as any Rule in Mathematicks.

Wounds made by a cutting Instrument, in which either the Artery, or the Vein which lyes in the Groove of each Rib, has been open'd, do very often produce a violent Hemorrhage.

It may be known that these Vessels are cut, when the Blood flows freely through the Wound; for in Wounds of the Lungs, the Hemorrhage discovers itself at the Mouth, or else the Blood flows into the Cavity upon the Diaphragm, and issues not out at the Wound, but when the Lungs dilate, or the Cavity is full.

In this Case, as well as in the others, Bleeding, a proper Diet and Rest, are the grand Ministers of Relief, for the Reasons which I have alledged before.

However, as this is of a different Nature from the rest, it likewise requires another Treatment.

A cutting Instrument cannot well penetrate between the Ribs and wound these Blood-vessels, without penetrating the Lungs also at the same Time: This I look upon as no great Obstacle in the Cure of this Sort of Wounds, when I consider that the Diversions which I make forthwith, answer all the Intentions; and I regard such Wounds of the Lungs as very simple Wounds, and easy to cure, provided my Rules and Maxims are observed.

The material Point is to stop the Hemorrhage, and to convey an Astringent to the Orifices of the Vessels, and confine it there: To this End I prepare a Tent, just long enough to reach between the Ribs; it is blunt at the End, and dipp'd in a Digestive, and afterwards rolled in *Calcanth*, or some Astringent. Then I introduce it, and suffer it to remain
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the Space of a natural Day: When I take it out no Blood follows; I dress the Wound without a Tent, and there being no foreign Body in the Wound, the Lips approximate touch each other, and in a little Time are intirely reunited; thus are these Wounds so portentous in their first Symptoms, heal'd up in six or seven Days at the farthest. The Method which I have here described, is what I have practised, and I may say, invented, for I never read any Author who treated Wounds in this Manner, nor ever met with any Master who follow'd such a Practice.

I will give no more than two Instances of it; the one in the Case of a Gun-shot Wound, the other of a Wound made by a cutting Instrument, which were both dress'd publickly, in the Sight of the Court, some of our most celebrated Physicians being present.

In 1710. M. de Blagnac, Colonel of the Regiment of Piedmont, was

wounded at *Ivré*, and afterwards brought to *Turin*, and dress'd by *M. Verne*, Surgeon-Major of the Hospitals of that City, a very skilful and good Practitioner.

I was called in about the seventh Day; I perceived that it was a Gun-shot Wound, the Ball having enter'd about an Inch below the right Arm-pit, and pass'd out at about the same Distance below the left Arm-pit, grazing upon the left Arm, and perforating the *Deltoides*.

His Symptoms were moderate, he was somewhat feverish, and restless o' Nights, but he breathed pretty well. I forthwith intreated *M. Verne* to lay aside two small Tents, and indeed they were very small, but not only very unserviceable, since the Suppuration of the Teguments and the Flesh, upon what is called the falling of the Escarr, was amply sufficient to keep open the Orifices of the Wounds, but also very pernicious by their Irritation on the fibrous *Ma-*
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milla of the Skin, and the Retention of Matter which they occasion'd.

The Suppuration was moderate enough, but I was a little astonish'd to observe, after the falling of the Escarr, that the Quantity of the Suppuration still continued the same, and the Wounds remained open.

This lasted until the eighteenth Day from his receiving the Wound, on which Day having perceived something white, which presented itself at the Orifice through which the Ball passed out, Mr. *Verne* drew it forth with a Forceps.

This was a foreign Body of about an Inch long, which when we had laid on a Plate, and moisten'd it with Water, to our no small Surprize we discover'd to be the round Piece of his Coat, which the Ball had driven in, and which had remain'd in the Lungs, but Nature had twisted it up, and protruded it by Degrees to the Orifice of the Wound; this gave me occasion to admire the wonderful

Conduct of Nature, when she is permitted to act at Liberty.

This Case was so publick, that it could not but add much Credit to my Method, and at the same time it served no less to discourage the Use of Tents; for nothing is more certain than, that had they been employ'd in the Cure of these Wounds, the Piece of Cloth would have been confin'd in the Lungs, and would have there rotted, and occasion'd an entire Putrefaction of the Parts, which would have brought inevitable Death on the Patient.

This foreign Body being remov'd, the Wounds were entirely reunited in three or four Days afterwards. This same Gentleman was, about four Years afterwards, seiz'd with a malignant Fever which carried him off. The Partizans of Tents would needs have the Publick believe, that the Manner of Dressing his Wounds, which produced but a very moderate Suppuration, gave rise to an Amassment

ment of purulent Matter, or an Imposthume in his Breast, and that this was the Cause of his Fever; at the same time they were so very candid as to endeavour all they could to hinder me from opening the Body, which I had gotten in my Possession.

In short, I was forced to apply for obtaining an Order from the Court,, which was granted me accordingly.

At the opening of the Body were present Mr. *Englesio* and *Piselly*, being the Physicians who attended him whilst his Wounds were under Cure, as also in his last Illness; there were likewise several other Physicians, and a great Number of Surgeons.

It appear'd that the Ball had perforated both Lobes of the Lungs in the upper Part; that its Passage was reunited with a very good and strong *Cicatrix*, and that the Lungs were perfectly sound, without the least Mark of any Alteration, as was evident from giving them several Inci-

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sions; but what seem'd to be the greatest Wonder of all to the Spectators was, that so well condition'd a *Cicatrix* should be form'd in a Part that was in continual Motion.

In short, the Gentlemen who had taken upon them to be the Partizans of Tents, retreated in some Confusion and Surprize, without offering a Word more.

The other, made by a cutting Instrument, was in 1716. Her Royal Highness being at *Montcalier*, a *Sicilian*, named *Alexis*, of her Life-Guard, in *M. le Prince de Villefranche's* Company, was wounded with a Sword between the second and third true Ribs, reckoning from Top, on the Side of his Pap. The Wound had penetrated into the Lungs the Depth of a Span, according to the Report of the Surgeon who prob'd it at first; who perceiving that the Blood issued out in great Abundance from his Mouth and Nose, imagined that the Patient would expire in his Arms,

Arms, and therefore desired that he might have some Assistant called immediately.

M/le Prince de Sabouchy, an Officer in the same Company, took upon him the Trouble of fetching me to the wounded Man.

After I had survey'd him as much as I thought fit, and had caus'd a simple Plaister with a Compress and Bandage to be clapp'd upon the Wound, only to prevent the Ingress of Air into the Breast, I order'd him immediately to be blooded, enjoining him to be strictly cautious how he moved any Part of his Body, and to use no other Food but Broth.

He was blooded in the Evening, and the Flux of Blood at his Mouth somewhat abated that same Night; the next Morning he was blooded again, as likewise the third Day, tho' in a small Quantity; on the fourth Day very little Blood issued out at his Mouth; on the fifth none at all; on the sixth he was perfectly

208 *The Hospital Surgeon.*

fectly cured ; and on the seventh I left him.

These Cures speak more eloquently than all the Reasoning I am Master of : Indeed all Wounds of the Breast that I ever treated in this Manner were attended with the like Success, and this by suffering Nature to act according to her own Way.

I have insisted on this in my former Work : It is apparently true, that Nature needs but little Assistance, to bring the most important Maladies, whether internal or external, to a happy Termination : The older I grow in my Profession, the more does Experience confirm me in this Opinion.

She is regular in her Operations ; she moves on with an equal Pace, and is ever employ'd in repairing the Mischief which the Body has suffer'd in the Parts that compose it : She restores Flesh which has been destroy'd by Sword, Fire, or Rottennes, with the Balm of the Blood : She reunites
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the Parts when they are divided, expels foreign Bodies, and, in a certain Space of Time, reunites fractured Bones with a *Callus*, which is the Result of her own Industry: I have shew'd that in penetrating Wounds of the Breast, it is sufficient to take off forthwith the Plenitude of the Blood by frequent Bleedings; that by so doing Extravasation, Suffocation, and Weight are prevented, and that the Patient is rescued from the Danger of an Inflammation, a Fever, and all the other Symptoms that are to be apprehended from Wounds of those Parts, whose Action cannot be disturb'd or interrupted without doing a notorious Prejudice to the whole OEconomy.

Having first of all, by judicious Evacuations, restor'd oppressed Nature to a Power of Acting, she never fails, in a certain and limited Time, to bring about a perfect Cure.

I have

210 *The Hospital Surgeon.*

I have observ'd that this Time never exceeds seven Days, when my Method has been follow'd: The first Cure on which I made this Observation, was on M. *de Fontaniere*, at *Pignerol*, in 1691. An Account of which may be seen in the second *Paris* Edition of my Book, *Pag.* 127, it being the 8th Observation.

The second was on the Valet of M. *de Lesseraine*, Commissary of War at *Briançon*, in 1691. The History of which may be seen in *Pag.* 130. Observation 9th.

In 1700. M. *le Chevalier de Ferrer*, an Officer, being in the Citadel of *Turin*, was wounded with a Sword two Inches below the Clavicle, it penetrating into the Substance of the Lungs: The Wound was accompanied with the most dangerous Symptoms, and he was thought by all that were about him to be in inevitable Danger: He was treated in the same Manner I have described above, and the seventh Day I left him, he being perfectly

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perfectly cured. His Brother, who was Major of the Regiment of *Nice*, was an Eye-witness of what I relate.

I have observed the same Thing in many the like Cases, which it would be needless to enumerate, as likewise in very considerable Wounds of the lower Belly, which if they were not absolutely terminated on the seventh Day, they were however beyond all Danger, and I visited the Patients no longer.

In 1720. The Son of M. *Lion* received a Wound of a Sword in the left *Hypochondrium*, which perforated the Liver, and touch'd the Stomach; he had the worst of Symptoms. I saw him no more after the seventh Day, and he was very soon afterwards intirely cured. And this present Year 1723, M. *le Marquis Cartos* receiv'd a penetrating Wound of a Sword in the left *Hypochondrium*. His Cawl slipp'd out at the Orifice, and was tied up: He had such Symptoms as seem'd

212 *The Hospital Surgeon.*

seem'd to foretel a very unhappy Consequence; but all was set to rights by frequent Bleedings; he had a Fever, which continued four Days, and on the seventh I left him with only a simple Plaister on the Wound, and in a Manner cured.

Whilst I was finishing this Tract, I receiv'd Sheet 22^d of the Memoirs of Literature, printed at *Venice*, Pag. 260, where I met with the following Observation, which I have translated from the *Italian*.

From Molffeta.

“ A VERY particular Affair
 “ has happen'd here, in
 “ which the Art of Surgery is high-
 “ ly concern'd: M. *Nicolas-Domi-*
 “ *nique Passari*, a young Gentleman
 “ of Fortune, and the only Son of
 “ a Widow, having on the 10th of
 “ *February* of the present Year 1723,
 “ receiv'd a Gun-shot Wound in his
 “ Breast, under the right Pap; the
 “ Wound

“ Wound was dress’d by the best
“ Surgeons of the Province, with
“ Tents, which were thought neces-
“ sary to promote the Discharge of
“ the Pus; and every time they were
“ taken out, a very large Evacuati-
“ on of it ensued; thus was the Pa-
“ tient dress’d for about three Months
“ together, and was thereby reduced
“ to so lamentable a Condition, that
“ he was in Truth a very Skele-
“ ton.

“ It was then thought proper to
“ have the Advice of M. le Chevalier
“ *Jean-Baptiste Verna*, chief Phy-
“ sician of *Viseglia*, a very accom-
“ plish’d Gentleman, and well known
“ by his learned Productions; who
“ having been inform’d of the per-
“ nicious Method which had been
“ made use of in dressing the Pa-
“ tient, forthwith order’d the Tents
“ to be thrown away, notwithstand-
“ ing the Surgeons oppos’d it. He
“ left the Care of Dressing him,
“ which was to be done after his

“ own Manner, to one Person only,
 “ having discharged the rest. This
 “ cruel Method being discontinued,
 “ the Fever ceased, and all the
 “ Symptoms disappear’d, and in
 “ twenty Days he was perfectly cured
 “ with a few Remedies, who would
 “ have had but a short Time to live
 “ without the Assistance of M. *Verna-*
 “ *na*. This Physician wrote an am-
 “ ple Relation of the Matter to the
 “ very celebrated M. *Sancassany*,
 “ first Physician to M. *le Duc de*
 “ *Guaftale*, for whom he has a very
 “ high Esteem, to which Relation is
 “ annex’d a Testimony of the wound-
 “ ed Person himself, given before a
 “ Notary the 6th of *August*, 1723.
 “ He has chosen to publish the Case,
 “ that it may appear to every one,
 “ that large Suppurations which hap-
 “ pen in Wounds of the Breast, arise
 “ from Tents only, which are very
 “ beneficial to the Surgeon, but most
 “ pernicious to the Patient, who in-
 “ stead of receiving any Advantage
 “ from

“ from his Dressings, falls thereby
“ into greater Mischiefs than his E-
“ nemy was able to inflict on him.”

This is an exact verbal Translation. That learned Physician was well apprised of the Abuse of Tents by reading the Translation of my Book by M. *Sancaffany*. It would be very necessary that those Surgeons who adhere to the Use of Tents, would seriously reflect on my way of Reasoning, how superficial soever it may seem to be, and suffer themselves to be influenced by incontestible Matters of Fact.

The last Year 1722, I had the Satisfaction of seeing in this Place M. *Eliot*, Chirurgeon to the King of *Portugal*, who after he had congratulated me upon the Progress of my Method, was pleased to tell me that his Fortune was owing to it; that he had put all his Care, and his whole Reputation upon it, in order to establish it at *Lisbon*; that he had caused my Book to be translated into *Por-*

Portuguese, for the Benefit of the Surgeons of that Country ; and that it was translated into *Spanish* ; that he had acquired a great deal of Reputation by the surprising Cures which he had wrought conformable to it ; and that it was with Astonishment that he still saw some Surgeons hold out obstinately against it, and grovel on unworthily in the cruel Method of the Ancients ; that to their Stubbornness was owing the Loss of a great Number of Lives ; that they perversely continued in their old Path for lack of a plausible Excuse for departing from a Set of pernicious Maxims, built only upon Interest, Waywardness, Hardness of Heart, and want of Charity towards their Neighbours.

Thus did this judicious Surgeon express himself, when he was here, on his Journey with Cardinal *d' Alcugna*, a *Portuguese*, who came from *Rome*, and was going to *Paris*.

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When a Truth is to be made appear, it is ever the best way to add Facts and Proofs to Reason: What follows I esteem not altogether unworthy Notice.

The King of *Portugal* having presented to Cardinal *d'Acugna* M. *Eliot*, his first Chirurgeon, to accompany him in his Travels; having made some stay at *Rome*, he took *Turin* in his way to *France*.

M. *Eliot*, a well bred personable Gentleman, came to Her Royal Highness's Court, saluted the very worthy M. *Cicognini*, made himself known to him, and learned of him the State of Chirurgery at *Turin*. After M. *Cicognini* had satisfied his Curiosity, he, in his Turn, enquired concerning the State of Physick at *Lisbon*: M. *Eliot* answer'd, we there follow M. *Belloste's* Method: He's here at hand; reply'd the other: You misapprehend me, says M. *Eliot*, I mean the old Gentleman who gave us his Method about thirty Years

L ago:

218 *The Hospital Surgeon.*

ago: I mean the very same, says our Physician.

M. *Eliot*, who supposed me dead, was perfectly astonish'd: Why, 'tis my Master, says he, and I can't leave the Place without seeing him; tho' I must own I have no other Knowledge of him than from his Book, which I got translated into *Portuguese*, and it was so well receiv'd, that his Method is now in the highest Vogue in *Portugal*, and to it I owe my Fortune: I acquired a great Reputation by practising it, and it never fail'd me of Success; the Book was also translated into *Spanish*, and it is esteem'd and follow'd by the most judicious Practitioners of that Country. Such was that Day's Conversation, and the following Day I had the Satisfaction of seeing M. *Eliot*, and of finding him a Gentleman of great Goodness and excellent Behaviour. He presented me to a great many Persons of Distinction in his Excellency's Train, and told them, with an inconceivable

Air of Modesty, This, Gentlemen, is my Master; 'tis to him I owe the Honour of serving the Person of our King. We dined together, after which the Conversation turn'd upon Surgery; and he could not forbear arraigning the Obstinacy of those Surgeons who grovel on in a barbarous and unmerciful Manner of dressing Wounds, and thereby destroy a Multitude of worthy Lives.

He added, that he had made Use of the King of *Portugal's* Authority, for banishing from the Chirurgery of that Country the Cruelty, Obstinacy, and Avarice of Surgeons.

That it would tend much to the Benefit of Mankind, if every Sovereign did the same in his particular Dominions, since Policy recommends it, Charity enjoins it, and Nature demands it.

That a Law should be made, by which Surgeons, when they are admitted to the Freedom of Practising, shall be obliged to abjure, for the

Time to come, the Errors of Antiquity, and to embrace this new Method, as it regards the Cure of Wounds, and in which Persons of all Conditions are equally interested. This was the Substance of this judicious Surgeon's Discourse and Reflexions ; every one may apply it as he shall think fit.

Of crooked Wounds.

I H A D, Sir, not long since the Honour to return you my Thanks for the Favour you did me in sending me *Sechini's* last Book, relating to our Controversy with M. *Maraviglia* ; I read it over with a great deal of Pleasure ; and I cannot forbear sending you some Thoughts about it.

It considers the Affair of crooked Wounds, in which, says the Author, there is nothing to be done without Tents.

This he repeats so often, that I can well perceive that he is not a little pleased with himself for such an important Discovery. 'Tis the Axis upon which the whole Machine turns ; he thinks it would be absurd to imagine it liable to any Objection.

The Conceit, though it may seem substantial at first view, and has no doubt met with its Partizans to applaud and protect it, does however, to

my Apprehension, bear a very near Resemblance to the Glow-worm of the Night; which would at first persuade one that it is something more than ordinary; and yet in reality, is no more than a poor Insect.

These Heresies in Surgery, like those in Religion, give occasion to Replies, which dispel Obscurities and Errors, and discover Truth; on which Consideration they must be confess'd to have their Use.

To form a right Conception of this Crookedness; let it be imagined that a Ball, or a Sword, was to perforate a Member, which at that Instant of Time is in a confined and set Posture: For Example, when the Head leans upon the Shoulder, and the Wound perforates the Neck; when the Arm is perforated, being extended in the Air; the Leg pierced through being extended stiffly forwards, or bent backwards; when these Parts are replaced in their natural Situation and Repose, the Passage of the Wound
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is crooked, and 'tis often a difficult Matter to pass a Probe into it.

We are now to enquire, whether in these Cases the Indication is to be alter'd; and whether this Sort of Wounds is to be dress'd in a different Manner from those whose Passage is strait.

If a Ball passes through a Member of a Size proportionable to the Vessels which are sever'd, and likewise to the Largeness of the Ball; if the Ball be large, the Contusion will be still greater, it will have sever'd a greater Number of Vessels, and will have doubled down, and as it were glued together, a greater Number of Fibres, by its Roundness, and the Activity of its Motion, which cover the Orifices of the sever'd Blood-vessels, and suppress the Hemorrhage.

But when the more subtile Parts of the Liquors begin to escape into the Passage, and the Beating of the Arteries gives at every Instant a Shock

to the Part, and afterwards to the folded Fibres, which disengages them by degrees; and finally, when the Blood which makes repeated Efforts to continue its Course, and regain its intercepted Circulation, throughout the whole Extent of the folded Fibres; then, I say, the Tubes are dilated in Proportion as the Fibres are disengaged, and suffer the Liquors they contain to flow out; this is improperly call'd, the falling of the Escarr; the Passage then, from being stiff, as it was before, becomes soft, and the Parts which were before separated and with-held from one another, do approximate, and cause, throughout the whole Passage, a gentle Compression.

But as in this Affair, it must of necessity so happen, that whatever flows from the open Tubes, and whatsoever is produced by the Solution of the contused and severed Fibres, will be convey'd into the Passage of the Ball; if these Orifices are stopp'd up
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with Tents, the *Pus* will be confined in the middle of the Passage, where it will remain lock'd up, or find an Out-let; and that which is least capable of Resistance must yield to it; thus will the heated Matter glide in between the Interstices of the Muscles, and produce Abscesses, and oftentimes Decays and Mortifications.

This seems to me no less demonstrative than what follows.

If the Orifices of Wounds are free, and sufficiently enlarged, as fast as there is any Extravasation made into the Passage, the soft Compression which happens at what they call the falling of the Escarr, when the Part is unbended and disengaged, will naturally protrude the *Pus* to the Orifices, they being the only Places where it can find a Vent.

It is very certain, that a Fluid in a Canal, be it strait or crooked, which is susceptible of Compression, is constrain'd to move and run out, when it meets with a free Issue.

I am of Opinion likewise, without Offence to M. *Maraviglia*, that a crooked Wound, whether made by a Ball or a Sword, is more easily cured than one whose Passage is strait, provided that it be not dress'd with a Tent.

It will be less exposed to the Injuries of the Air, which penetrates more difficultly into a crooked, than into a strait Canal.

The Elasticity of the Parts acts with more Force upon a crooked than upon a strait Place; for it there meets with greater Resistance.

The Compression is more forcible, when the Parts of a crooked Canal approximate to each other, when no foreign or solid Body possesses it; and the Reunion is so perfect, that no Fluid can possibly remain therein; which cannot be done to the same Perfection in a strait Canal, in which the Elasticity is weaker, and less exerted.

No one who is versed in Mechanics, will be at a Loss to come into this Argument: The Motion or Elasticity which is natural to all animated Parts, which in all Appearance is produced from the Motion of the Heart, and the Pulsation of the Arteries, excites an undulatory Motion, which is the Source and Origin of all Depurations, Filtrations, Distributions and Evacuations, which are perform'd in so many different Places, and various Manners.

This Motion pushes and protrudes from the Centre to the Circumference whatsoever is superfluous, foreign, or useless.

It propels likewise to the Orifices of Wounds, be they strait or crooked, not only Pus, but even the most solid foreign Bodies, when its Motion is not depraved or interrupted by Tents, which, by irritating, cause Contractions among the Fibres, and afterwards Extravasations, Inflammations, Abscesses and Mortifications,

tions, and quite overthrow the Economy, by despoiling its Parts of their Elasticity.

If M. *Maraviglia* has consider'd a little, as I doubt not but he has, the Fabrick of our Machine, he must acknowledge that it is actually endued with an Elasticity which endures as long as Life itself; and that the Soul is never separated from the Body before this Elasticity ceases.

That this Elasticity gives Motion to all the Liquids, and Action to all the Parts.

That without it the Contents of the finest Tubes, a Multitude of which are far more slender than a Hair, could neither move, nor be distributed.

These are no chimerical Imaginations; it is in virtue of this Elasticity, that the Fluids which are contain'd in all the Vessels of our Body, circumvoluted in so many different Manners; that which is contain'd in the Spermatick Vessels, which are
so

so strangely wound up ; and in a Word, in the various Actions where the more minute Tubes are circumvoluted and bent, their Contents do not stand still, but circulate without interruption, tho' the *Pus* which is contain'd in the Cavities of Wounds, is not like the Liquors, inclosed in Vessels which have a circular Motion.

It is continually propell'd and driven forwards by the natural Motion of the Parts, to the Orifices of Wounds, notwithstanding the Passage be long and crooked ; and this by an undulatory or vermicular Motion, not unlike the peristaltick Motion of the Guts.

To make this Canal or Passage strait, it is the Opinion of *M. Maraviglia*, that the only way is to introduce a Tent into it, which shall fill up its whole Capacity ; and there should be two of these which are to touch each other, where there are two Orifices.

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In Order to their penetrating into a crooked Passage, they must needs be hard and solid.

When the Contusion comes to suppurate, what will become of the Matter, which will have neither Space to be deposited in, nor Vent to get out at? The Fibres must surely be moisten'd with it, and grow large and rigid; the Member will be tumefied, distended, and very painful; an Inflammation will soon ensue; Circulation will be interrupted, the Liquors, by standing still, will ferment, grow eager, and corrupt; and Mortification will put a Period to the Cure, and Life at once.

If the two Tents do not touch each other, the Matter will be all accumulated between them; the Suppuration is large, and the Space but small; this will be sufficient, in the Space between the Dressings, to excite a Number of bad Symptoms.

I could say a Multitude of Things on every Particular of this dangerous Method;

Method; but then I should fall into a Repetition of what I have before observed in a great many Parts of my Writing.

Were a Man to practise Surgery with due Reflexion, could he avoid seeing, that a Wound, for Example, made with a cutting Instrument, which has but one Orifice, and is supposed to be crooked, if it were dress'd with a Tent to straiten it, that Tent must be hard and stiff, if it penetrates to the Bottom of the Wound? And would not this occasion all the Symptoms which I have before recited? Moreover it would bruise the Flesh at the bottom of the Wound, which being bruised would become painful, the Pain would produce an Inflammation, the Inflammation a Suppuration, and all the Consequences attending it. Where then is the Advantage of such a Dressing?

In a word, what Necessity is there that any Tent at all should be thrust into a Wound, which needs only to be
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232 *The Hospital Surgeon.*

be reunited? In my first Campaign at *Luferne* in 1686, a wounded Person fell under my Care: It was a Gun-shot Wound, the Ball entering under the *Zygoma*, at the same Instant that his Head was turn'd, and passing out near the *Hypocondrium* of the opposite Side: Here was a Wound contorted after a strange Fashion; M. *Maraviglia* would, no doubt, have impal'd the poor Fellow with a Seton, for I think it would have been scarce practicable to have made use of a Tent in such a Case.

I made the Diversions which I thought requisite, and applied a simple Plaister to each Orifice, being very watchful of the Symptoms that might arise; for at that Time I had not entirely given up all Thoughts of Tents; however, my Patient was entirely well the twelfth Day after he received his Hurt, the Wound having discharged but a very little Matter by Suppuration: What became of that very terrible Escarr, which
is

is the Foundation of so many chimerical Arguments? Oh Nature! were thy Language easily intelligible, thou couldst tell us a thousand Times more than I am able to write upon this Subject.

The Consequence of what I have related above is, that Tents are no ways necessary in the Cure of crooked Wounds.

That if Wounds with a very large Passage, are cured without any ill Symptom arising either during, or after the Cure, those whose Passage is less will be cured with more ease, if the same Method be followed.

That nothing is more cruel or painful to the poor wounded Person, than to ram into him at every turn, such a foreign Body as a Tent is, which lyes buried in the Flesh, and is extracted at each Dressing, with much Difficulty and Misery.

That it is utterly impossible for such a Procedure to be continued without producing fatal Accidents.

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234 *The Hospital Surgeon.*

That it is sinning against Charity to endeavour to establish and make publick so cruel and pernicious a Method.

That it is abandoning Reason, good Sense, and a vast deal of Practical Experience, to strive to support an Error which may possibly be capable of imposing upon the Simplicity and slender Capacity of young Surgeons, who are not always qualified to distinguish between a good Method and a bad one.

That it is by no Means consistent with Conscience to say, I practise according to the Instructions that were given me ; we have Authors who have establish'd this Method, and it has continued in use Time out of Mind.

Such Excuses may pass in indifferent Cases, but where Mens lives are concern'd, notwithstanding the Novelty of a Maxim, it ought not to be condemned without being duly examin'd into.

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The Novelties which appear'd in the last Century, as well in Physick as in Surgery, were the Fruits of the vast Labour and Application of their Inventors.

They never offer'd to exact from Mankind a blind Submission to their Writings, they crav'd no more than a strict Attention, and a studious Mind, void of Prejudice, and capable of being affected with what was good, useful, and true.

From what has been said, it is evident that crooked Wounds stand not in need of being made strait by Tents, in order to their Cure; it would be a worthy Undertaking indeed to find out an Expedient to set strait the Minds of those obstinate Surgeons who are so tenacious of that Method.

Tents are so far from being of any Service in crooked Wounds, that, on the contrary, they cause strait Wounds to become crooked by forming Cavities, *Sinus's*, *Fistula's*, &c.

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236 *The Hospital Surgeon.*

This is unquestionable Matter of Fact.

If all I have said is insufficient to undeceive M. *Maraviglia* and his Adherents, I would entreat the Favour of him to answer me the following Queries.

If a Ball or a Sword should happen to pass through the Neck of a Person, whose Head at that Instant of Time is turn'd towards the Shoulder, would M. *Maraviglia*, in this Case, make use of a Tent which should possess the whole Passage, or would he make use of two, one at each Orifice?

If he would have the Tents to stay in the Wound, they must be secur'd by a pretty tight Bandage, else the natural Elasticity of the Parts, and the Pulsation of the large neighbouring Arteries, would drive out the Tents in spite of the utmost Precaution. Now the Mischief is, that this Part will not endure a tight Bandage, the Passage of Air forbids it ;
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the *Trachea* and *Oesophagus* have the Privilege to defend the Neck from the Cruelty of Tents ; and on this Score it were to be wish'd, as I have observ'd in my former Work, that all the other Parts of the Body were compacted of the like Organs.

Yet notwithstanding all this, M. *Maraviglia* is for using them in this very Part, as well as in all others ; he is too fond of them, to neglect applying them even here. But in this he stands not alone by himself. It is about four and forty Years ago, that M. *le Baron Palavecine* was wounded by a Ball which perforated his Neck, it entering near one of the Jugulars, and passing out near the other, touching the *Vertebrae* in its Transit. He was dress'd with two Tents, which occasion'd him to suffer mortal Pains : He endured these cruel Dressings ten or twelve Days together, and then commanded the Surgeon to omit the Tents ; after which the Wound soon heal'd, but it left

left behind it a very exquisite Pain in the Part, insomuch that he could not move his Neck: The Thing happening in *Italy*, he went to drink the Waters at *Luca*, from whence he received no Benefit: He sent me a very particular History of his Misfortune in Writing, and I prevail'd upon him to remove to *Aquy*, where I met him, and he left that Place well cured.

In order for a Tent to stay in Wounds of the Neck, it must of necessity be large, hard, and long, for a slight Bandage is impracticable on this Part.

What must be the Consequence of such a Tent? Why a continual Pain, a Contusion of the Parts, a Compression upon the Blood-vessels which are very large and numerous; these will be follow'd by an Inflammation, a Suffocation, a *Delirium*, an Imposthume, &c. Whereas if, on the contrary, Nature were suffer'd to act at Liberty, the Cure would soon be

be compleated notwithstanding the Crookedness of the Wound.

Lastly, if such Wounds happen in the Joints, would any one be so cruel, as to stuff in Tents, as likewise in the *Carpus*, *Tarsus* and *Metatarsus*? He that in such a Case should have Recourse to these fatal Instruments would be deserving of an exemplary Punishment.

If a Sword or Bullet passes through a Man's Body, the Person, at the Time he receives his Wound, being in a Bent or wrested Posture, the Wound will then be crooked: What Tents or Setons must be employ'd in such a Case? M. *Maraviglia* would infinitely oblige me by answering this Query.

This, Sir, is what I thought myself obliged to send you. God grant that it may be of some Benefit to poor wounded Persons, and open the Eyes of young Surgeons, who are too apt to be imposed on by a chimerical

merical Way of Reasoning. As our Adversary has chosen to print his Opinions, I thought that a Publication of this Answer was very necessary; yet I submit the Matter entirely to your better Judgment; and I entreat of you, that herein you would use your strictest Discretion, without having any Regard for me. I know Experience has taught you, that 'tis an Author's Lot to undergo the Fatigue, and his Readers to reap the Benefit: If a Man writes well, he'll be sure to excite Jealousy; and if he writes amiss, the Criticks will not fail to be upon his Back: When a Man undertakes to recommend Novelties to the World, he neglects his own private Affairs and Interests: He may possibly meet with some Applause, but let him not presume too much upon Reward or Protection: But should he be so lucky as to acquire a moderate Share of Glory,

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even

The Hospital Surgeon. 241

even this will draw on him a kind of Odium from his intimate Acquaintance. These are no Novelties, but they are as certain as that

I am, &c.

Turin, April

3^d 1717.

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Of

Of red Pimples of the Face.

THE greater Part of the Ancients being unable to assign the essential Cause of red Pimples, and other such Disorders of the Face, chose rather to lay the Fault on the Liver, than suffer all the Parts to pass equally uncensur'd. Heat, they tell you, is the Cause of such Complaints: It is therefore necessary to cool the Liver, and treat it as if it were really distemper'd, tho' it enjoys a perfect Health, and is altogether innocent of the Crime that is laid to its Charge.

The erroneous Notions of the Ancients about Chilification and Circulation, determined their Judgments amiss with regard to the Cause and Symptoms of many Diseases, among which this which I am now handling is one, namely, that the Liver is principally concern'd in Disorders of the Face.

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Let it be imagin'd that too great a Heat of the Liver would be productive of some Indispositions, yet they cannot be imagined to be of this Sort: The Liver being over hot, might occasion too precipitate a Digestion, by communicating both Subtility and Motion to the Ferments of the Stomach which always rests upon it, and this might produce a *Fames canina*; yet this Symptom is never observ'd to attend those who have red Pimples in the Face.

What particular Sympathy has Observation remark'd between the Liver and the Face? If indeed a canine Appetite were always accompanied with this disagreeable Malady, there would be room to believe that the Liver was the Cause; but on the contrary, I have ever observ'd, that, for the most Part, these extravagant Eaters have rather a pale than a red Complexion.

If the Heat of the Liver did produce this Accident of the Face, why should it not occasion the like in

244 *The Hospital Surgeon.*

other Parts of the Body which are nourish'd by the same Liquors, and at which they arrive by the same way of Circulation?

The Liver is nourish'd with the same Blood that the other *Viscera* are; it communicates to them all, the same Impressions of its good or ill Quality: Thus, if the Liver be hot, the rest of the *Viscera* must be so too; if it be sound, they will be so too; if it be disorder'd, they cannot continue in a healthful State; they have a sympathetic and natural Connexion, a reciprocal Union and Correspondence, by which they hold a continual Community by way of giving and receiving: The different Liquors, which are necessary to them for carrying on the vital Commerce, cannot any of them exceed in any Quality, that will not affect the rest. A Disorder of any one of the *Viscera*, will infallibly occasion an Indisposition in all the others.

A Distem-

A Distemperature of the Liver must produce other Complaints besides a bare Alteration of Colour in the Face, and a few Protuberances on the Skin. A Distemperature of the Liver, is at all times attended with an ardent Fever, Loss of Sleep, a *Delirium*, a Tension of the Belly, an acute Pain in that Region, with many other very dismal Symptoms, which rarely happen to those who have Redness or Pimples on the Face: On the other Hand I am of Opinion, that this Complaint is no Indication of any Thing amiss within, but is rather a Mark of a good Constitution, which may be spoil'd by a Load of Remedies which are often given to dissipate this Deformity of the Skin.

Having then excluded from the Liver the Cause of this Complaint, we must try if we can discover how it is produced, and what Remedies are proper to remove it. In the first Place it should be consider'd, that

the Skin of the Face is of a particular Texture, that it adheres to the Muscles, that its Pores are very minute and fine, that it is interspersed with a great Number of Arteries, which furnish Blood to it, and give a particular Vermilion Teint to the Complexion, and that it has likewise many small Glands which serve as Sieves to filtre the Blood.

It should be observ'd in the second Place, that the Face is always exposed to the Injuries of the Air; that the more the Blood abounds with a subtile Nitre, the more florid is its Colour, and the more apt is it to stop in the minute Globules of the Glands of the Skin, considering the Subtility and Fineness of the Vessels that convey it; that the Nitre of the Air mixing with the Nitre of the Blood, stagnates it in the small Glands, and in the minute Vessels, which being there fix'd, it communicates its Colour to the Skin; and if it makes any long stay, it occasions Protuberances
and

and Pimples: It cannot remain long without the Vessels, without corrupting; and then it occasions Pustules, which come to Suppuration: This *Pus* does very often spread itself between the Skin and the Scarf-skin, usually call'd *Epidermis*, which it dries, and forms it into Scales, looking not unlike branny Tetters, which drop off in time, and are succeeded by fresh ones, as the small Coagulations are renew'd, the productive Cause still subsisting.

This is the mechanical *Rationale* which I assign of this Disease, which is no other than a simple Indisposition of the Skin and Scarf-skin: To appropriate a suitable Remedy thereunto, it must of necessity be an Absorbent, to destroy the superabundant Nitre, and a Dissolvent, to dissipate the Coagulations which are already made, or shall be made in the Part: Thus by clearing the Blood of the superfluous Nitre, and by attenuating the Blood which is stopp'd in the

248 *The Hospital Surgeon.*

Glands of the Skin, the Symptom must certainly cease, and the Skin recover its natural State.

This will not appear disconsonant to Reason, if it be consider'd, that the more subtile the Blood is, the more easily is it coagulated by the Penetration of Air, as it happens to the Face, when, as has been said, it is impregnated with a subtile Nitre, and is penetrated by the Nitre of the Air, which assists in compleating the Coagulations there. In like Manner the Pleurisy never happens, but when the Blood, by a violent Agitation, is subtilised and rarefied to such a Degree, that the Pores being dilated and open, the cold and subtile Air, to which the Body chances to be exposed, rushes freely into the Blood, and coagulates it by its Nitre: This is my Idea of a Pleurisy. Although it has been remark'd that the Pores of the Skin are very minute; yet if there be a subtile Nitre in the Air, as I suppose in this Case that there
is,

is, this aerial Nitre will not fail to enter into a Commixture with it, from the natural Aptitude that two like Substances have to unite; so that notwithstanding the minuteness of the Pores, they will act conjointly, and coagulate the Blood and the Liquors which are in the Glands of the Skin.

If this be supposed, it will then follow that nothing but an Absorbent, and a Dissolvent well adapted, and taken internally, can put an End to Indispositions of this Kind, and by destroying the Nitre, which might in the End bring on a Megrim and a Consumption, re-establish the Body in good Plight, and abolish the morbid Cause: It cannot be disputed whether or no this Malady proceeds from a Coagulation of the Juices in the Glands of the Skin; and it must be acknowledged at the same Time, that all Coagulations are made by an Acid.

This being the Case, nothing but a Dissolvent and an Absorbent will

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be capable of destroying the Acid, and dissipating the Coagulation: Now a Remedy which dissipates Obstructions of the *Viscera*, and Cancers of the Breast, which cures scrophulous Glands, which hinders the Generation of the Stone, by liquefying the Humour which glues together the Sand of which it consists; I say a Remedy which can work all these Effects, may with far greater Ease remove an Obstruction in the Glands of the Skin; for indeed all Coagulations, great and small, have one and the same Principle and Cause; and the Medicine that will remove one, will remove all others. The Action of a Remedy which amalgamates with the Blood, and distributes itself into all Parts of the Body where the Blood circulates, must affect the Body universally, because the Blood circulates every where; therefore it must act as an Absorbent and a Dissolvent in all Parts.

I can't help thinking that this is a rational way of Arguing, as to the Nature both of the Disease, and of the Remedy: It were to be wish'd that in the Treatment of all Diseases, a serious way of Reflecting were made use of about their Nature and Symptoms, and likewise the Remedies to be made use of for their Cure: This would be a Method of forming a rational System, which would take off the Necessity of leaving any Thing to mere Hazard.

*Of Diseases of the Eyes, and
of the Plague.*

IT is past all Dispute, that the Perfection of Health consists in a free Circulation of the Fluids, they having no vicious Intermixture that is capable of producing an Alteration in them.

It is no less certain, that when a *Pletthora* prevails, or the Liquors are too thick, the Circulation is sluggish; in both these Cases Impediments and Obstructions will be form'd in the minute capillary Vessels.

When the Nature of the Liquors is alter'd by Dissolution, and they are render'd too fluid, they are impell'd with Rapidity against the weaker and the more delicate Parts, and so they load and embarrass them.

When the same Juices become eager, saline, and pungent, they will
irritate

irritate and contract the Fibres, and inflame the very sensible Parts.

This is the Idea which I have formed of the Cause of most Diseases of the Eyes, which I look upon as the most delicate, the most weak, the most sensible, and the most exposed Parts of the Body.

The Vessels which are distributed in the Globe and in the Muscles of the Eye are exceeding fine and minute.

Now when a *Plethora* has repleted these very small Vessels of the Eye, and its Parts; the whole becomes charged, tumefied, and distended: Tears, being the most fluid Part of the Liquors, are squeezed out by the Compression they suffer, and a heavy, dull, tensive Pain is felt.

If the Blood be viscous enough to clog up all the Canals which distribute Nourishment to the Part, an Atrophy of the Eye must ensue, by which it will be utterly consumed, as I have seen it, and this for want of receiving,

ing, or through a Privation from Obstruction.

When the Blood is too much dissolv'd, the Eyes grow large and glare, with a moderate Degree of Pain; and lastly, when the Blood is eager, saline, and pungent, it causes Irritations, the Irritations cause Contractions, the Contractions cause Obstructions, Extravasations, and Inflammations, which produce a Multitude of consequent Symptoms.

There is a vast Number of other kinds of Diseases which the Eyes are subject to, but they having but little to do with my Subject, those who are willing to inform themselves of them, may have Recourse to the Authors who have written about them.

When Defluxions of the Eyes are obstinate and of long Continuance, there is Danger that they will form an Obstruction in the Pupil, and produce a Cataract.

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When the Blood and the Liquors are convey'd to the Eyes in great Quantities, and are impeded, compress'd, or obstructed in their return; then the Eyes will encrease in Size, and will stand out of the Orbit: This is called the Ox-eye.

In Disorders of these Kinds, recourse is ever had to Diet, Bleeding, and external Applications, as *Collyria*, Veficatories, Plaisters, Cupping, &c. Yet I have often remark'd, that these Operations and Applications, how judiciously soever they may be design'd, do not work a Cure, but the Patient is left to languish out a tedious Time in vain Expectance of Relief.

These Considerations, and a Principle of Charity, oblige me to impart to the Publick, what I learned in my Youth from a Master-Surgeon at *Paris*, no less eminent for his Skill, than for his excellent Qualities. His Name was *M. Paris*, he was a Doctor of Physick of the Faculty of *Rheims*,

256 *The Hospital Surgeon.*

Rbeims, a Surgeon of the long Robe, and a Professor.

Having the Honour to be at that Time one of his Pupils, he took me along with him one Day to see a Patient of his, who had an acute Fever, which so affected his Brain that he became Lethargick : At the same Time that he prescribed for him, he gave me Orders to lay on behind each Ear of the Patient, a Semi-circle of the Caustick-Stone, which I did according to his Instructions.

I perceived, much to my Surprise, that the Patient recover'd his Senses that same Day, and as the Escarr separated, and the Suppuration increas'd, the Disease abated, and he soon recover'd.

I express'd my Surprise to my great Master, telling him, that tho' I had been concern'd in Practise nine or ten Years, and had made several Campaigns and Voyages, yet I never had seen this Operation. Whether it was out of Modesty, or for some other

other Reason, he laid no claim to the Invention, but bid me confidently have Recourse to it in all Disorders of the Head: Above all, says he, remember that it is a sovereign Remedy in Diseases of the Eyes, the Teeth, and the Ears, but especially the Eyes: Try it the first Time you have an Opportunity, and you'll be convinced of the Truth of it. Altho' he did not explain to me the *Rationale* of this Operation, yet I always kept the Thing strong in my Memory, 'till I had an Occasion of putting it in Practice at *Luserne*, in 1666, being at that Time Surgeon-Major to His Royal Highness, now King of *Sicily*.

I had then the Satisfaction of observing the good Effects which it produced in a great Number of different Disorders.

But when I was Surgeon-Major to the King of *France*, at the Hospital of *Briançon*, in 1691 or 1692. I met with a Case which well deserves

258 *The Hospital Surgeon.*

erves Notice, and should never be forgotten.

A young Soldier came to the Hospital, having the Ball of one Eye entirely consumed, insomuch that a large Hazel-nut might with ease have been placed in the Orbit, which seem'd to have nothing in it, save a little Spot of red Flesh at the Bottom. This naturally beset him, no external Harm having in the least contributed thereunto.

After a careful Inquiry into his Complaint, I order'd a young Fellow to perform the Operation behind both Ears, without sparing the Skin; and this with an Intent of preserving the Eye that remain'd.

I thought no more of the Patient for three Weeks, when asking the Lad concerning him, he told me he was very well, and that was all. I had the Curiosity to go see him, so the Boy brought me into the Ward, and shew'd me a Soldier who had two sound Eyes, which made me tell the

the Boy, this is not the Man ; the Patient I want to see has but one Eye.

The Soldier answer'd, Sir, I am the Man ; but I could scarce believe him before I had examined his Ears, which gave me sufficient Testimony of the Operation's having been perform'd.

The Wounds were still open, and I was convinced to my very great Satisfaction, that he was the same Man whom I had seen but a short Time before in so miserable a Condition.

He return'd soon after to his Regiment, and as often as he march'd through *Briançon*, the poor Creature would be sure to return me a thousand hearty Thanks : I should be very cautious of giving Credit to so unlikely a Story as this, whoever should tell it me ; however, it is a real Truth, and the whole Hospital were Witnesses of it.

I have since that Time performed the same Operation with great Confidence,

fidence on a Multitude of Occasions, and never without Success; and considering with myself by what Means these Drains should produce so salutary an Effect; I observ'd, that the backside of the Ears is an Emunctory of the Brain, and consequently a Part liable to Obstructions, considering the Fineness of the Vessels, and the Aptness of the Emunctories to be charged with Humours, in Indispositions where whatever oppresses and overcharges Nature, is in Part deposited in the Glands and the excretory Canals.

There passes behind each Ear a large Branch of the carotid Artery, which sends Branches to the Globe of the Eye, to the Muscles, and the neighbouring Parts: This is the only Vessel hereabouts that is of any Size.

Now, let the Eyes be attack'd in any Manner whatever, for Example, by a *Pletbora* of the Part; by a Dryness, when the Vessels are obstructed,

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obstructed, or when the sharp Humours occasion Irritations or Inflammations: This Operation will answer every End; by cauterizing the Vessels, it checks the too abundant Course of the Liquors, and the Pain which the Operation causes, makes a salutary Revulsion, which diverts the Flux of the Liquids: The Vessels of the Part being divided by the Burning, the Obstructions are destroy'd, and the Pain giving a Shock and impetuous Motion to the Spirits, suffices to remove the Stoppage of the Tubes, which must open and dilate, receiving at the same time the Liquors, which having regain'd their Course, the Atrophy must terminate, and the Humours of the Eye be repair'd, for want of which they were before consumed.

When the Eyes are charged and soak'd with sharp, acid, and saline Humours, nothing is more serviceable than this Operation; for, as I have observ'd, it forthwith checks
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the impetuous Course of the Liquors, and the Patient feels immediate Relief.

But as the Escarr comes gradually to rot, dissolve and suppurate, the Pus which is generated, and which proceeds from dead Flesh, is purulent, fetid and sharp.

But as Things of a like Nature do easily join and unite, all the little Branches of the Vessels which were lacerated by the Caustick, having their Mouths open'd in the Suppuration of the Escarr, do deposite all that is vicious, acrid and saline among their Contents, in the Wound, which is moisten'd with a Juice of the like Nature; and thus large and beneficial Suppurations are often produced.

It appears from hence, that the Blood, which is at that Time carried to the Eyes, will be depurated, filtered, and from acrid and acid, become sweet and balsamick, which is alone sufficient for the Cure. Whether this mechanical *Rationale* of the Matter,

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Matter, which would well admit of a better Illustration, be just, or whether the Effect be perform'd after some other Manner; this at least is certain, that Eyes entirely lost and consumed may be restored, and *Guttæ serenæ* cured by this Operation; as it happened not long since to a Priest on whom it was perform'd by M. *Calcan*, a Master-Surgeon of *Turin*. This Man's Eye was fair and sound to all Appearance, yet was it utterly deprived of the visive Faculty; notwithstanding in a short Time it was perfectly restored by Virtue of this Operation.

Supposing Nature's mechanical Way of Acting to be ever so much involv'd in Obscurity, as in this Case it is, and that there is no possibility of explaining it, without making all one can say or write about it, liable to be censured and rejected; yet does not this a Jot diminish the Value of the Effects which her Goodness produces, nor take off from the Esteem of
of

264 *The Hospital Surgeon.*

of the Operation : This is not the only Instance in which we are sensible enough of an Effect whose Cause is to us inexplicable.

Nothing carries a greater Resemblance of a Miracle, than the Success of this petty Operation, which restores Sight to Eyes entirely consumed and dried up, dissipates a *Gutta serena*, which has ever been regarded as incurable, hinders the Progress of a beginning Cataract, and destroys it though it be already form'd in the Pupil.

It speedily abates Pain, and entirely takes it off in a short Time : It dissipates Defluxions, Inflammations, Opilations, and Suffusions of the Eyes, without the Assistance of any other Remedy ; this is what I have experienced a Multitude of Times, and my Brother Surgeons, to whom I have communicated it, know it full well, having practised it as well as myself on diverse Occasions, and I believe that no Man ever did so before
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me in this Country: This Operation may in Case of Necessity be perform'd with an Iron Instrument, it would be sooner done, and would be less painful and less burthensom.

It would draw out the Blood, which might very likely produce a better Effect, by being discharged near the Part afflicted, than if it were drawn from Hands and Feet: And indeed if the Malady arose from too great an Abundance of Blood alone, convey'd to the Part too copiously, the Relief would be speedy and beneficial, as likewise in soporous Disorders; but excluding these Cases, I find that the Pain which lasts some Time after the Caustick has wrought its Effect, is a very speedy Remedy; for I have observed on many Occasions, that a good Part of the Pains were gone when the Caustick had perform'd its Operation.

The Operation by the Caustick furnishes a longer and more copious Suppuration.

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266 *The Hospital Surgeon.*

The Wounds keep open much longer, and the afflicted Part may disembarrafs itself at leisure: The Suppuration and the Rottenness of the Escarr have a kind of attractive Quality, whereby they suck out from the lacerated Tubes and wounded Glands the viscous Juices, which instead of being conducted as they were before, to the Part aggrieved, are constrain'd to unite with the eager and viscous Ferments of the dissolv'd Escarr, and the Pus which is contain'd in the Extent of the Wound.

For these Reasons, I prefer a Caustick to an Iron Instrument, in Diseases of the Head and Eyes.

I am of the same Opinion with regard to the Operation which M. *Alprun*, an *Englishman*, caused to be perform'd at *Vienne* during the last Plague that raged there.

He believing that the Pestilential Venom, which enters into the Body through the Pores of the Skin, or in Respiration, communicates with
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the Blood, and by the Way of Circulation is often deposited upon the Groins or the Armpits, as Emunctories, caused an opening to be made with an Iron Instrument, and in it was placed a Tap, this was done at the Emunctories, in order to hinder the Venom from stopping and turning in upon the Glands of those Parts; through this Passage it was to be evacuated, and so prevented from taking its Road towards the Heart. This Operation he got perform'd on himself and several of his Friends.

If we consider the Effect which the Caustick produces, and reflect a little on the Observations which I have laid down, we must agree that it is preferable to the Iron Instrument, on this Occasion, as well as on the foregoing.

That the Caustick opening the Glands, and a great Number of Vessels, the Humours are as it were urged to take their Course that way, and be discharged.

268 *The Hospital Surgeon.*

That all the Mouths of the Vessels are considerably open'd by the moisture which arises from the Dissolution of the Escarr, and consequently the Suppuration must be more plentiful.

That the Vessels which unload themselves into the Wound, do thereby constrain the distant Liquors to move that way, in order to replenish the Vacuity; and thus is there a successive Attraction carried on, whereby the ill conditioned Fluids are drawn from the Centre to the Opening.

This to me appears both natural and well-grounded. For here Nature requires a powerful Assistance, who from the first Days of the Attack of the Disease being so heavily charged and oppressed, is not able of herself alone to procure a critical Motion for her Relief.

I have seen, in my first Campaigns in *Germany*, Persons die of the Plague before my Eyes, with Bubo's under the Armpits, for want of sufficient Strength

Strength to suppurate and discharge them: If these Patients had met with such a Help as I have been speaking of, in all Appearance, the Venom which Nature had protruded so far, would have found a favourable Issue, and have been evacuated without returning inward, as it did, and reaching the Heart by Circulation.

This Operation should be perform'd, not only when there appears any Elevation or Tumour in the E-munctories, but likewise when no such Thing is perceptible; it is enough to be assured that the Person is attack'd, and on this Occasion I never scrupled to proceed to the Operation directly.

Diseases of the Eyes have insensibly led me on farther than I intended, every Man is at his Liberty to make what use of it he shall think fit, and judge of it as he pleases.

Those whom either Duty or Charity engages in attending on pestilential Persons, ought to neglect nothing

that may preserve either those they take care of, or themselves.

The great Secret consists, in my Opinion, in preserving what is good in the Blood, and in augmenting it, if possible, by the Help of Cordials, a good *Regimen* of Living, and a Sedateness of the Spirits: In destroying that which has a malignant Disposition to propagate the epidemical Disease; in defending the Emunctories by Amulets, which have the Virtue of dispersing from the Body the infected Air, in the Manner of crude Mercury, which by forming a *Vortex* of Vapours about the Body, hinders the Infection from entering: In procuring an Exit for the Venom when it has penetrated into the Body, by Respiration, or the Pores, by opening it free and easy Passages, at those Places especially where Nature protrudes and expels whatever oppresses her, as well as all Superfluities and Impurities; such are the Emunctories

munctories which serve as Sinks and Drains to the Blood and Liquors.

The Emunctories having been opened with a Caustick, should after the falling of the Escarr, be tented to hinder the Reunion, to cause Irritations, Inflammations, Access of Humours, and abundant Suppuration: They should be dress'd often, squeezed, and probed, and in short treated in a Method quite opposite to that which I practise in dressing of Wounds, that they may be kept open 'till the Depuration of the Liquors be accomplish'd, which may be known by the Absence of the Symptoms, and by the good Disposition of the Patient, on whom these painful Cauteries procure an abundant Evacuation of the pestilential *Virus*, far more beneficial than that which is made by purging Medicines; they taking but small hold of the Ferments, and evacuating indiscriminately both what is good and bad; whereas by this Way, Nature filters thro'

the Openings, nothing but what is bad and impure among the Liquors, retaining all that is good and useful: This Operation, and the Manner of Dressing, is warranted by the Example of pestilential Bubo's coming to Suppuration, which are opened with a Caustick, in the same Manner, and are treated and dressed after the same Fashion, they never failing to procure in a short Time the Destruction and Expulsion of the *Virus* which infected the Blood: Every Day's Experience may evince this Truth, and Practitioners know it full well.

As long as the *Virus*, of what Nature soever it be, has not attacked the solid Parts, but is still kept swimming in the Fluids, I think it sufficient to provide it Out-lets, and to sollicit it to a critical Motion: To excite, for Example, in the Pox, instead of a Flux at the Mouth, a Flux at the opened Glands of some one Emunctory; to open the Vessels in which the *Virus* is contain'd, and by which it may naturally be discharged

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charged without Conflict, and without Violence; in a Word, to open a Gate through which the Enemy will be compell'd to retreat alone.

It is to be imagined that it would be proper to treat all other Ferments in the same Manner, for Nature is uniform in her Operations, and has but one mechanical Way of Acting.

Tho' I have already asserted, that this Operation is really preferable to Purges, yet those which are blended with crude Mercury, may be administered with good Success, in the Cure of all contagious Diseases, for the Reasons I have given in my Treatise of Mercury.

It may be objected to me, that if the Plague be communicated as it seems to be, by a Parcel of small Worms, or the Eggs of Worms, the Wounds being often dress'd, Worms or their Seeds will enter in, and hatch in the Ulcers, and so be mix'd with the Blood, Humours, and Principles.

I answer, that I suppose that the Patient should take crude Mercury

at the Mouth, mix'd with Purgatives, one Part of which associates with the Lymph, circulates with it; and consequently is communicated to the Juices and Humours which are deposited in the Ulcers; the *Pus* being impregnated with the volatile Particles of the Mercury, will destroy the Worms which the Air shall have introduced into the Ulcers.

Moreover, I suppose, that the Person shall wear Amulets of the same Metal about him; the Vapour which comes from these will drive away and destroy every Thing that is contagious in the Air which surrounds the Body; the Commerce and Union of the mercurial Particles which is made from within to without, and from without to within, must in a little Time totally destroy the malignant, vicious and contagious Ferments, of what Nature soever they be. It requires indeed a thorough Knowledge of Mercury, to be able to come into, and relish this way of Reasoning.

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Of incystated Tumours.

EXperience has abundantly convinced me, that a greater Part of the Tumours which are so frequent in this Country, are made by Congestion, incystated, and of a cold Nature.

Any one may be satisfy'd of the Truth of this, who will examine into the Nature of the Air, Food, Waters, and ways of Living that are here most common.

Northerly Winds blow ofteneft, and before they reach us, they pass over large Tracts of Lakes, Rivers, Pools, &c. from which they take up great Quantities of Vapours; and having not the Liberty to expand themselves, they are sent in upon us through a narrow Passage, terminated on either side by Mountains, which form a Sort of large Canal, and are at last arrested in their Progress by Mountains of an exceeding great
N 6 height,

276 *The Hospital Surgeon.*

height, as *Mont-vic*, and those about it; so that being deny'd a farther Progress, they stop in *Piedmont*, where the Inhabitants take them in by Respiration, and they produce very sensible Effects even upon the most solid Bodies, as Experience testifies: The general Food of this Country is fat, nourishing, and viscous: Its Waters are heavy and muddy, approaching to the Nature of its Air, which is no other than a subtilised Water.

These Things consider'd, it should not be surprizing to see here so many * large Necks, so many Obstructions, Opilations, cold Humours, Wens, Weaknesses of the Joints, crooked and swoln Legs.

Too large a Quantity of a very nourishing Diet, a sedentary Life, to which the Inhabitants are too much accustomed, together with what I

* *Quis tumidum Guttur miratur in Alpibus?*

Juven.

have

have remark'd before, must also contribute to thicken the Blood and the other Liquors, and render their Motion sluggish and slow, which will bring on a Multitude of Infirmities.

It is not my Design to concern myself with such Disorders as are without the Bounds of Surgery; I have not a Capacity equal to such an Undertaking: I shall confine myself to what I know, and to the Observations and Experience with which I have been furnished by a long Practice.

The *Bronchocoele*, which is so common in these Parts, and to which the Female Sex are especially liable, affords an Indication by which a Judgment may be made that all the other Tumours do participate, more or less, of its Nature; which may direct us to form a System, that shall convey an Idea of the Tumours that are form'd in different Parts of the Body, which are attended with no
Inflam;

278 *The Hospital Surgeon.*

Inflammation, being without Pain, and generally inclosed in a *Cystis*.

The *Cystis* of these Tumours is nothing else but the Membrane of the Gland in which the Tumour begins, whose excretory Duct is clogg'd by some Viscosity, so that it continually receives Juices, which not being able to find a free Out-let, they there stop, tumify the Gland, and enlarge and stretch its Membrane, which is too weak not to yield to the Pressure.

Thus arises a Tumour, which tho' at first it seems minute and despicable, yet may in Time become considerable: If this first Gland continues to enlarge, it will compress the excretory Ducts of the neighbouring Glands, and then they also will increase in Size for the same Reason; and so Pellets of Tumours will be form'd, which by Degrees will take entire Possession of the Part.

According to this Principle, the Viscosity of the Juices, and the Con-

sistence of the thicken'd Liquors, not being able to pursue their Course, are constrained to stand still, and be amass'd together, and at length by their Stagnation to grow eager, sometimes to such a Degree as to occasion an universal Coagulation in all the neighbouring Parts, as it happen'd to the late M. *le Comte de Valledise*, and some Years afterwards to his Wife.

This Gentleman living in the Country, unprovided with Persons capable of doing him any Service in an Obstruction that was form'd in the Mesentery, which by Degrees grew to a monstrous Size, being at least as big as a Man's Head, all the other Parts of the lower Belly were attack'd with the same Malady, being as hard as a Stone: The spermatick Vessels, and both the Groins, were vastly enlarged, and the *Scrotum* and Testicles also as big as ones Head: These terrible Coagulations would yield to no Remedies; the Consultations on his Case, in which I assisted, served
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to no other End, than to fill us with Astonishment.

About seven or eight Years afterwards his Wife was attack'd with a Tumour on one of her Arms, which through Neglect, and wrong Dressing, became at length bigger than ones Head: I was sent for to her when this terrible Tumour, by its Size, its Weight, and its dragging the Teguments of the Bending of the Elbow, had occasion'd a Strangulation, whereby the fore Pare of the Arm was in danger of being gangrened. This determin'd M. *Verne* and me to open the Tumour, which discharg'd an abundance of Lymph and Blood, and in eight Days put an End to the Patient's Life.

Here the Husband and the Wife were both cut off by a like Disorder in different Parts: There is some Appearance, that the natural Dispositions of these two Persons might contribute to the Progress of their Complaints, but it is also very probable, that

that these prodigious Events might have been provided against, if in due time, a good and powerful Absorbent and Dissolvent had been administered internally, and an attenuating Diaphoretick applied externally.

Disorders of this Nature are ordinarily neglected, 'till they are come to such a Pass as to take off all Hopes of curing them. This was the Case of the late M. *Vion*, a substantial Citizen of *Turin*, whom I visited about five and thirty Years ago: He had a kind of Wen, as big as an Egg, on the middle of the Lambdoidal Suture, which I advised him to have eradicated before 'twas too late, but a Physician of his Acquaintance, otherwise a skilful Man, opposed it.

It grew at length to a monstrous Size, being as big as a Pail: This Burden he bore upon his Shoulders, walking quite double: In Time it gangrened, and he sent for me together with M. *Englesio*, his Physician.

282 *The Hospital Surgeon.*

cian. I cut the Tumour into four Parts: It was fill'd with a prodigious Quantity of Bladders as big as Nuts, full of a thick Lymph, and void of Pain: I was forced to put my Hand into the Tumour, as into a Bag, to take out these Pellets: There was a very large Evacuation of thick Lymph: The Tumour in three Weeks was shrunk almost to nothing, but yet the large Suppuration so exhausted the Vessels, and drain'd off, in all Appearance, so much of the Fluids, that his Blood being reduced to a bad State, he fell into a Fever, and died when his Wen was almost cured.

Such is the Conclusion of these Tumours when they have been neglected, or ill dress'd: I cannot help adding to the foregoing Instances, that of M. *Scanagat*, an Iron-Merchant, for whom I was concern'd.

He had an indolent Tumour on the hind Part of his Thigh, which he took no Care of for some Time ;

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at length it was bigger than ones Head, and its Weight in a Manner destroy'd the Action of the Part. He then had recourse to Advice and Remedies, but notwithstanding Fomentations and other Means, it visibly increased; at length it was resolved to open it, which accordingly was perform'd by M. Moron his Surgeon.

This vast Bulk was fill'd up entirely with a Substance like Plaister, such as no Medicine could act upon: Corrosives were applied, and a Part of it was brought away, but when that which adhered to the large Vessels came to be separated, a Hemorrhage, as I had predicted, ensued, which kill'd the Patient in a few Days.

These four fatal Examples should determine both Patients and Surgeons not to be neglectful of indolent Tumours in their Beginning. Their Insensibility is the Destruction of those that have them. There's no great matter

284 *The Hospital Surgeon.*

matter of Inconveniency in them they think, what need then of a Surgeon? And so they go on.

Here I cannot forbear speaking of the usual Manner in which these Maladies are treated, which does the Patient so little Service, that it puts him out of Conceit with Remedies.

Recourse is never had to any thing but Emollients, which indeed soften the Skin, but do no ways affect the Tumour.

Very little or nothing is to be expected from Purgatives; for it is not an abundance of Humours to which these Grievances are owing; it is to their Quality, which Purges are not capable to correct: Less is still to be hoped from Bleeding, if it be consider'd, that it is really an Exhaustion of the Liquors that is their very essential Cause; it will appear that Dissolvents must be employ'd; and if there be a Predominancy of an Acid, then Absorbents must be called in.

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If an external Remedy be applied, it should have Efficacy enough to shock and put in motion the Matters which stand still, to which End they must be attenuated and subtilised, which may be done with attenuating Diaphoreticks and Discutients : Thus by external and internal Remedies the Liquors may recover their Fluidity, and enter the Road of Circulation, and be carried off through the Pores, so that the Tumour shall disappear.

Now, that which authorises the Use of Emollients, is Custom, and a kind of Seemingness that it should be right to apply a softening Medicine to a hard Tumour : But in order to apply Remedies judiciously, it is necessary to be well acquainted with the Nature of Diseases, and their Causes.

For Instance, if the annular Perforation of the *Peritonæum* happens to be dilated, the Intestine or the Cawl presents itself, in the Likeness
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286 *The Hospital Surgeon.*

of a Tumour in the Groin, (the former of which is called *Bubonocèle*, the latter *Epiplocèle*) the Ring occasions a painful Compression, and a resistent Hardness.

Here Emollients are of service; they easily penetrate the simple Teguments, and affect the Fibres of the Ring, which being relaxed, yields to the gentle Pressure which is made in order to reduce the Intestine or Cawl, and then the Tumour disappears.

But if the Intestine falls into the *Scrotum*, it forms an *Enterocèle*, which is a very large and hard Tumour: In this Case Emollients are very pernicious, as I have shewn in a Treatise written expressly on this Subject. In the Infancy of Tumours, where the Matter which forms them has not had Time to harden, it may transpire through the Pores dilated by Emollients: This may hold good likewise in Tumours which make a speedy Progress, they consisting of Liquids only, which are extravasated, and retain

tain a Subtility and Fluidity sufficient to procure them an Egress through the Pores when they are relaxed by *Fetus's*, or any other Applications.

But in Tumours whose increase is very gradual, and which have acquired a certain Size and Hardness, Emollients are wholly insignificant.

'Tis true indeed that when they are in the Condition of those aforementioned, they are out of the Reach of all Remedies; for by compressing the Blood-vessels they hinder Circulation in the Part, and cause many other Mischiefs.

If the Matter which fills them be put in Motion, it will corrupt, make an Alteration in its continent Parts, and come to a vicious and imperfect Suppuration.

Nothing is then to be expected, but the fatal Consequence of being obliged, in spite of ones self, to open the Tumours, which from their prodigious Size, and the Number of
Mouths

288 *The Hospital Surgeon.*

Mouths and Orifices of wounded Vessels, must exhaust the Patient, especially considering that all the Canals which carry the Liquors in these large Tumours, are dilated and wide: On which Score it comes to pass, that so considerable an Evacuation, and loss of the Blood and Liquors ensue, as must put a speedy Period to the Person's Life.

The use of Emollients and hot Fomentations contribute much to dilate the Vessels, and to render them varicous; and oftentimes these Remedies, which ever occasion some Motion in the Liquors, excite a kind of Fermentation in them, which causes a Swelling of the Liquors, so that they escape, and make such an Inundation in the Tumour as is enough to deceive the most skilful Person, who believes that a laudable Suppuration is perform'd, when really no such Thing has happen'd, there being nothing within but Fluids, which will soon corrupt, and are incapable

incapable of ever coming to a true Maturity.

Having shew'd what should not be done, I am now to shew what is to be done, having been taught it by Experience, upon which my slight Theory is built, and my whole Argument turns.

When therefore a Tumour without Pain, Redness, or Heat, begins to appear in any Part of the Body, it is esteem'd to be of the same Nature with those of which I have spoken.

Sometimes a simple Plaister of *Diabotanium* will dissipate them in a few Days; if it be somewhat stubborn, it will be proper to mix with it a little of the Salt of *Aqui*, or for want of it Sal-armoniac, and then the Effect will soon follow.

If these sorts of Tumours have acquired a certain Size, some Astringents should be mix'd with the afore-said Plaister, which by moderately contracting the Fibres of the Skin and the *Cystis*, will diminish the Size

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of

290 *The Hospital Surgeon.*

of the Vessels, cause an Expression, so that less Humours shall be brought to the Part, and force those which are already extravasated, to re-enter the Road of the Liquors, provided they have been attenuated and made fluid by Dissolvents.

No Time must be lost in doing this; for if these Liquors have Time to grow thick, the Remedies cannot but prevent a large Quantity of them from being brought to the Part; but to render these Juices fluid, and dissipate the Coagulation, internal Dissolvents may be employ'd, as Mercury well prepared and mixed up with gentle Purgatives.

If these Tumours yield not to such simple Remedies, which very rarely happens, or if they are become scrophulous, nothing is better than a Salivation; it is the last Remedy that can be used to destroy entirely the antecedent and conjoin'd Cause, and to relieve Obstructions of the Mesentery, which do almost always accompany

company these Disorders, by destroying the predominant acid Ferment.

I have observed, that when these Tumours are large and hard, the use of Mercury in Pills has a very salutary Effect; there are few Hardnesses that can withstand its Action, as it is incorporated with the Lymph, which is carried and conveyed into the most solid Parts for their Nutriment; where the Mercury breaks and separates the united Humours, the Shock and Motion which it occasions amongst them, by a kind of ferment, bringing on a laudable Suppuration. This I have many times experienced.

When the Tumour is large and soft, Mercury taken in the Manner I mentioned, has little or no Effect upon Humours of this Nature, scarce any Thing but such an Exhaustion as a Salivation occasions can remove them; nor is even this infallible.

When I was at *Briançon*, a Soldier was brought us with a soft Tumour on his Loins, which was the
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most monstrous for its Size that I ever saw. Every thing was done that could be thought of for his Relief, Mercury, Salivation, &c. but to no Purpose, for the Patient died of a Gangrene.

I thought myself under an Obligation to communicate to the Publick the Observations I have made on these Maladies. I have condemn'd the too frequent use of hot Fomentations and Emollients, which however are serviceable on several Occasions; but Judgment is required in making an Application: I hope my Reflexions may be of some Advantage to the afflicted, for whom I still labour, notwithstanding my great Age of seventy Years, and my narrow Capacity.

*Of the Meaning of the Word
Escarr.*

S I R,

BEING return'd from *Nice* two Days ago, where we made some stay, expecting our King and Queen back from *Sicily*, I found there were left for me two of your Letters, the one of *July 26*, the other of *August 5*. In Answer to which I do myself the Honour to thank you for the printed Papers of the *Sieur Gaetano Bortoli*; I shall only observe to you that they are excellent for modelling the Judgment, without expatiating upon their further Merit, and so I shall proceed directly to the Subject of your Question, hoping at the same time to satisfy the Curiosity of the *Sieur Boccacini*.

Although in my Work I frequently make use of the Word *Escarr*, yet I have asserted that it is a Term of Custom,

294 *The Hospital Surgeon.*

Custom, which has been by every Body made use of improperly; it being my Opinion that a Ball, let it pass through any Part whatever, is not capable of making an Escarr, tho' it may easily occasion something very like it: Nothing can make an Escarr, but by burning; now a Ball discharged from a Piece has no Power of Burning, for it is an easy Matter to take it in the Hand immediately after, without the least painful Sensation of Heat; therefore it cannot form an Escarr.

The Violence of the Powder drives it out without touching it; if it receives any heat, it must be from its Friction with the Air; but this is so inconsiderable, that a Bullet or Stone discharg'd from a Cross-bow, would acquire as much, and would produce the same Effect on the Parts.

That which is taken for an Escarr, is only produced at the Entry and Exit of the Ball: You desire, Sir, to be inform'd, how it comes about, that

that the like happens not throughout its whole Passage?

If the several Parts of the Body were all of the same Nature, the Thing would undoubtedly be so; they would all receive the same Impression.

The Skin is made up of a Contexture of long, round, strait, oblique, circular and transverse Fibres, it is perforated by an infinite Number of Pores, each of which has a small Gland, a lymphatic Vessel, and an excretory Duct; the nervous Fibres and the Vessels make an exceeding fine, dry, and compact Woof, and this forms that Membrane which is the Seat of the Touch, and invests the whole Body; it is then in Virtue of these nervous Fibres, that it has a quick Sensation, and that the Soul is presently advertised of the least prick it receives.

When this Woof has been divided or lacerated, whether by a Ball, or a cutting Instrument, its proper

Substance can never be repaired again.

A *Cicatrix* is form'd by the Help of the nutritious Juice, which performs the Office of the Skin, but it has neither the Colour, nor the Structure of it, being more hard and unequal, and less sensible as it bears a greater Resemblance to the *Callus*, which is form'd in Fractures and Loss of Substance of the Bones: This being admitted for Fact, it is not difficult to perceive that a round or square Bullet piercing it, must occasion a much greater Discomposure in this Parr, than in the Muscles, which have but two or three Sorts of Fibres, incapable of much Resistance, and easily yielding and folding down in the Passage of the Ball which oftentimes notwithstanding leaves no bad Impression upon them; but the Skin acts with a kind of Resistance, both at the Entry and Exit of the Ball.

When the Ball enters any Member, as the Skin is sustain'd by the Muscles,

Muscles, it makes only a Hole proportionable to its Size, and breaks off and lacerates but a small Quantity of Fibres.

The Ball at its Exit meeting with the Skin without any Support, raises it up, by pushing it from within, outwards, which being sustain'd by no other Body, soft or solid, it scatters and lacerates a greater Number of its Fibres; this is the Reason why the Aperture at the Exit of the Ball is always larger than at the Entry.

If the Ball made an Escarr at its Entry and Exit, there would be the utmost Reason to believe that it would be continued throughout its whole Passage, considering the Delicacy of the Flesh; yet since I practis'd my new Method of dressing Wounds without a Tent, I can say with great Truth, that I never observed any Suppuration of an Escarr in all the vast Number I have dress'd, though many of them had very large Passages.

When a Ball enters a Muscle in a Direction parallel to its Fibres, it makes but a gentle Impression upon it, how long soever the Passage be : When a Ball crosses a Muscle, it lacerates the Blood-vessels which it meets with in its Way, and at the same Time suppresses the Hemorrhage; this is what induces almost all Surgeons to imagine that the Ball cauterises, because it stops the Blood. But upon examining strictly into the Matter, it will be found that a Ball entering a Member, by its Figure and the Activity of its Motion, does nothing else but fold down the Fibres of the Muscles and of the Blood-vessels, doubling and fixing them one upon another, which Fibres are withheld in this State by that admirable Glue, the nutritious Juice, 'till Nature, assisted by the Elasticity of the Parts, sets them free in order to Reunion, which she will always complete, if she be left to act at her own Discretion and Liberty.

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If the Matter be so, as according to all Appearance it is, the Ball makes no Escarr.

If the Powder, or the Action, or violent Impulse with which it is sent into the Air, were capable of igniting a Ball of Lead, it would melt a Ball of Wax put into the same Piece in its stead; which however happens quite otherwise; for those who are skill'd in the Matter will tell you, that it would not only enter the Body of a Man, but be forced even thro' a Plank of Wood; it can therefore neither burn, nor make an Escarr.

Let us come to the Fact, and examine the Matter by the Maxims of Practice and Experience.

The Suppression of the Hemorrhage gave rise to the Opinion which has hitherto prevail'd, that the Ball makes an Escarr, and that such Escarr must be separated by a good Suppuration, before the Wound can be reunited.

In order to open a Way to the Dissolution of this pretended Escarr,

it has been thought expedient to clap a Tent into the Orifice of the Wound, if it has but one, but if there be two Orifices, then there should be two Tents.

These Tents, by keeping open the Passage of the Ball, and holding the Flesh asunder, when after a few Days, the Motion of the Elasticity, the Course of the Spirits and the Liquors have relieved the Fibres of the open Vessels in the Passage, must needs occasion the Liquors to run out into the Cavity of the Wound; so that when the Tents are taken out Blood and Corruption follow: This is what is commonly called the Falling of the Escarr, which would be more properly called a Falling of the Operator's Senses.

It is easy to perceive, Sir, that the bare Friction of Tents is enough to wear off and destroy the Extremities of these Fibres which occlude and secure the Orifices of the open wounded Tubes; and likewise that there would

would not, nor could not, be more than a very moderate Suppuration, and oftentimes none at all in the internal Parts of Gun-shot Wounds, were it not excited by the Irritation of Tents, and by frequent and judicious Dressings.

You may possibly observe to me, Sir, that when I reject the Word *Efcarr*, it behoves me to substitute another in its Room; but it is no easy Matter to find out one Word which is capable of conveying the Idea which I have of this pretended Efcarr, since I consider it as complicated of a Contusion, a Solution of Continuity, and a Loss of Substance only of the Skin.

The Contusion is evident, the Solution of Continuity incontestable, and the Loss of Substance visible; not that the Ball does that to the Skin which it does to the Clothing, of which it frequently carries away a Piece.

But

But it wears away and destroys that Portion of the Skin which it touches, and sometimes the circumjacent Parts too, at its Exit.

I think it superfluous to observe to you here, what is Nature's mechanical Way of Acting in this Sort of Wounds, when she is suffer'd to act without constraint : I mean in penetrating Gun-shot Wounds, all which heal without any falling of an Escarr, or Suppuration : It is a Subject which I have in a Manner exhausted already in the several Letters which I have done myself the Honour to write to you ; those who are desirous of entering into the Matter may please to peruse them ; however, believe me to be most heartily, Sir,

Your very humble and

very obedient Servant,

Thurin, 1714.

BELLOSTE.

TWO

TWO LETTERS
OF

M. B E L L O S T E.

*First Surgeon to Her Royal High-
ness the late Dowager of Savoy,*

*Written to M. A. Boccacini, in
Conformity to his Notions, and
against those of M. P. Mara-
viglia;*

*About the Way of Dressing
Wounds after the Manner of
the famous M. Magati.*

L E T T E R I.

I HAVE receiv'd, Sir, your se-
cond Observations on the Errors
that are committed in the Cure of
Ulcers

Ulcers, for which I am indebted to the celebrated M. *Sancaffani*. I observe with great Pleasure that your Maxims are solidly establish'd and defended: As I find myself interested in this Affair, I am determin'd, notwithstanding the Resolution I had taken to write no more, to enter into an Alliance with you, in Hopes to animate your Zeal, and at the same Time I partake of the good Cause you have espoused, to shew you how much it delights me. I think I have done my Duty in offering to the World, the Fruit of so much Experience and Reflection as has fallen to my Share; and I must freely own to you that to me it seems somewhat extraordinary, that after I have pass'd twenty Years uncensured by any Professor of our Art, a young Man should at this Time o'Day start up, and enter the Lists with you. I think you need be no ways uneasy on the Score of your Aggressor, whilst you have on your Side a Gentleman
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of so much Application and Sagacity as *M. Sancaffani*.

If *M. Maraviglia* your Adversary had taken the Pains to read the Translation which *M. Sancaffani* was pleas'd to make of my Book; and if he had given Attention to the Remarks which he has subjoin'd to it, the Aphorisms which he has publish'd, and the Experience which he has brought in Evidence; I am fully assur'd, that he would have laid aside his Design of opposing it. But you'll pardon me, Sir, if I go back to the Source of this Dispute; 'tis from no Principle of Vanity that I am fond of doing it, but only to assist you in subduing the Obstinacy of our Antagonist.

I must acquaint you, Sir, that after many Years serious Application and continual Labour, having acquired a good deal of Experience, and being fortified with a great Number of Observations and judicious Reflections, I form'd the Project of attacking

306 *The Hospital Surgeon.*

attacking and opposing Tents, and the usual, but painful Way, of dressing Wounds. This was at a Time when only one Method of Practice was in use, which was directly opposite to that which I was willing to introduce; my Courage however did not fail me, I follow'd my Blows, and left the Event to Fortune. You know, Sir, how favourable she was to an Enterprize, the Justice of which supported the Boldness of it; and what Success my On-sets had, both the Living and the Dead proclaim to my Glory. Among others, your celebrated M. *Sancaassani* was a warm Partizan of this new Method. He gave the magnificent Title of *Chiron in Campo* to my poor *Hospital Surgeon*, of which there have been two Editions in *France* that were well receiv'd, one in 1696, the other in 1705. A Translation of it was made in *Holland*, which in 1710 had been printed five Times: I have by me a *German* Translation of it, and

and I am inform'd that it is in *English*. In a Word the wise *Magati*, buried in Obscurity and forgotten for a whole Century, is now restor'd out of it by the Care of *M. Sancaffani*, and is plac'd at the Head of our Party to be our Hero. Notwithstanding the favourable Prepossessions in Behalf of our Method, there are still Professors who remain tenacious of ancient Errors, who oblige us to come to Blows with them; whoever questions this, needs but cast an Eye upon your Adversary, who in a small Number of Pages attempts to overthrow that which has been generally receiv'd, approv'd of, and practis'd. If Reputation be his End in this Combat, I would take leave to observe to him, that in order to acquire it, he should oppose Reasons with Reasons, Experience with Experience, and Authorities with Authorities. To prevent the Ruin of his System he must, as we do, support it with incontestable Facts instead of
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Sophistries. No more of this, but to the Matter.

As two Thighs perforated with Musquet Balls, happened to be the first Wounds that convinc'd both you and me of the Perniciousness of the use of Tents; let us strictly consider a Ball, which, discharged from a Piece, is introduc'd by the Violence of its Motion, into the inmost fleshy Part of a Thigh, especially since it was from such a Fact that the Dispute between you and Mr. *Maraviglia* took its Rise. To this end let us reflect upon the Structure of the wounded Part, and the Mechanical Way of acting which Nature makes use of.

The Thigh as well as all the other fleshy Parts, is no other than a Contexture of Fibres, Vessels, Nerves, and Membranes, of which the Organical Parts that are employ'd in voluntary Motion, consist; these are called Muscles. All the Muscles are invested with Membranes, and each

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has its Belly, its Head and its Tail, by which it is firmly fastened to the Bone to augment its Force and Motion. Now let us see what a Ball will do in opening a Passage through these Parts: It must injure the Fibres, break their Union and Continuity, and damage the Vessels, so that their Contents will escape out, and expand themselves throughout the whole Space of the Wound, which will hinder any further Circulation in the Part for that Time; the Nervous Fibres will be affected as well as the others, and being a kind of Vehicles to the Animal Spirits, their Course will likewise be interrupted, and so Motion must cease, or be render'd languid. But as it is the Business of Surgery to bring in a speedy Remedy to all these Discomposures, it is also its Duty to examine the Symptoms and Circumstances, to reason upon them, and, without delay, to put in Execution whatsoever shall be judg'd most proper for the Cure of
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310 *The Hospital Surgeon.*

the Complaint. Now as all these several Parts are affected and suffer from only one and the same Cause, namely the Solution of their Continuity ; Reason leads but to one Indication only, in order to the Cure ; which is the Re-union of the said Parts, and this cannot be accomplish'd but by making them to approach towards each other, taking Care that nothing intervenes between them ; and to act otherwise is not seriously to set about the Business of re-uniting them. Surely the Tent can be of no Service towards replacing the bruised and unfolded Vessels, after their Rupture, in the same State they were in before the Hurt was receiv'd: So far from it, that it is a new Separation, which keeps them in the same State of Constraint in which the Ball left them, and is a continual Obstacle to Nature, who is always inclin'd and solicitous to repair whatever has been put out of Order in the Oeconomy of her Structure.

ture. The Thing will be quite otherwise, and will have another Success, if Tents are thrown aside, and and the Parts are brought towards each other (the Wound being first cleansed) and made to join together; the Balsamic Liquor or Natural Glew will unite them with ease. This Balm performs its Effect by assisting the Impetuosity with which the Liquors and the Spirits are carried towards the Place to continue their Course; for by following this Motion, it happily gets into the Place that is proper for their Re-establishment, and consequently for taking off the Disorder which the Ball occasioned by dividing the Fibres and Vessels. In truth, Sir, it would be by no means handsome, to tell a Man that he has Ground enough to struggle in, when one's Foot is upon his Throat; yet this is like what the Partizans of Tents have to urge. They are for healing the Wound, that is to say, re-uniting the Parts

312 *The Hospital Surgeon.*

that are divided and ruptur'd, for no cure without Re-union, all Separation taking off from the Organ the Action for which it was design'd. They are, I say, for re-uniting them by keeping them asunder, and by putting into the Wound a Body which keeps them in the same oppress'd and separated Condition in which the Ball left them.

In order to procure this Re-union, is it not the more certain Method to make these Parts approach each other, and keep them in that State of Conjunction by a moderately tight Ligature, that so this admirable Architect which knows how of herself and without any Assistance, to re-unite broken Bones, may restore the fleshy Parts of the Thigh to their original Order and Symmetry. In a Word, the essential Indication of which I am speaking to you, is to procure a Re-union, and to this End, not to put the least Thing between the disjoin'd Parts, which may im-

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pede such Re-union, and to keep them in a Condition of Union by a convenient Ligature upon the wounded Part.

Now, to carry my Reflexions farther, I consider the Constitution of the Parts, which I have likewise spoken of in my Book. I observe in them a natural, imperceptible, insensible, and, as it were, vermicular Motion, which in all appearance is propagated from the Heart, and convey'd with the Blood to the Arteries in all Parts of the Body. The Arteries by their continual beating, strike against the Parts that are contiguous to them, and those do the like to the rest, so that this Motion is continued and expanded successively even to the Surface, to which it is communicated by an undulatory Motion, which is moreover supported by the impetuous Course of the Animal Spirits; and hence arises the secret Elasticity by which Nature drives from the Centre to the

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314 *The Hospital Surgeon.*

Circumference, or from within to without, whatsoever is useless or offensive to her.

By Means of this Mechanism, a Piece of Cloth of the Size and Figure of a Half-Crown, which enter'd with the Bullet, at *M. de Blagnac's* left Armpit, came away, ten Days after, at the Hole which the same Ball made at its Exit, near the right Armpit; this little Piece of Cloth was roll'd up tight and strait, having pass'd quite thro' the Lungs. This Gentleman was dress'd without Tents, and was cur'd in thirty Days, without any bad Symptom, without Pain, and at the Expence of a very small Quantity of *Pus*.

M. Englesio Physician to the King of *Sicily*, and first Physician to her late Royal Highness; *M. Piselly*, a celebrated Physician; *M. Verne* Surgeon general of the Hospitals of this City, a Man of great Experience, and likewise the Surgeon Major of the Regiment *Basnac* assisted in this Cure,

a Relation of which I sent to M. *Sancaffani*, who wrote an Answer to it, which he has inserted in the fifth Part of his *Magatus resuscitatus*, where it makes the 36th Observation.

I think I do not deviate much from Truth, when I consider this Mechanism, as the Agent and principal Spring of *Crises*, for it is its self exactly the same as a continual *Crisis* which is made at the *Superficies* of the Body, by insensible Perspiration.

'Tis by the same Mechanism that the peristaltic Motion of the Intestines is preserv'd, so that by its means the Excrements are propell'd downwards, and are discharg'd out of the lower Belly. It assists in Urinal Evacuations, and gives the Lungs the Power of discharging Flegm and other Embarrassments by way of Hawking: But all these admirable Springs are unable to execute Nature's Design, without the Motion of the Parts which are destin'd to this Effect; and the Freedom of this Mo-

tion is so much more necessary to the Cure of Wounds, that I make no Question but it is by its Force, that the Fibres, press'd and folded down by the Ball, are reliev'd and do approximate towards each other. I cannot think of any Expedient more likely to prevent this salutary Direction of the Fibres, than the Tent, which must directly oppose the natural Motion which I have been explaining, and excite a Motion contrary to it, from which an Effect must in consequence ensue, quite contrary to that which the natural Motion of the Parts would produce.

Add to this, that the Tent is an Obstacle to the Circulation of the Liquors; it is not only a Damm that stops them, but it is likewise a Cause of irritating the Fibres, so that they are tumefied, and increase in Bulk, whilst they are contracted in Length: By this Means the Vessels which pass between these Fibres, are compress'd by a kind of Ligature, so that they cannot,

cannot, but with great Difficulty, continue the Course of their Liquors throughout the whole Extent of the Wound. Hence arises a *Pletthora* of the Vessels upon the Part that is compress'd, which *Pletthora* is accompanied with a painful Tension all over the Part. This I have known frequently to happen, as it does every Day to Gun-shot Wounds dress'd with Tents. But when these Vessels are inflated and dilated to a further Degree, the *Anastomoses* must be ruptur'd, or opened. What will be the Consequence of this? Inundations, Abscesses, Suffocations, Gangrenes, which are produc'd by the Filtrations of the Vessels into the Cavity of the Wound. From these will arise abundant and vicious Suppurations, which will corrupt the other Humours that circulate throughout the Body, which will be weakened and extenuated in a miserable Manner.

318 *The Hospital Surgeon.*

Such a Wound as I have been describing, is ever attended with Contusion ; and Tents, say the Partizans of them, must necessarily be employ'd on this Occasion. If one was to demand the Reason, I am at a loss, what they would say. I should be on their Side, if the best way of Healing one Contusion was to make another ; but this is contrary to all common Sense ; and yet those, who use Tents, are continually making new Contusions. For a Proof of which, let it be noted that a Bullet enters a Member with so great Rapidity, that oftentimes the wounded Person can hardly feel it ; but tho' it produces no Pain, yet it undoubtedly does produce that which is improperly call'd an Escarr. Now the Tent being a hard Body, and a continual Cause of Pain, presses the quick Flesh, and rubs off its Teguments, which then is very liable to be irritated and mortified by the least Thing that touches it. It appears then that

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the Tent presses and crowds it much more than the Ball did in its Passage; which according to my Opinion, leaves no Escarr, but at its Entry and Exit. If the Patrons of Tents object, that, for want of them, the Orifices of the Wounds will close up too soon, and so hinder any Thing from being done to the Escarr which the Ball made in passing from the one Aperture to the other; I freely shall return them this Answer, that I can have no Notion that the Escarr should be continued throughout the Ball's whole Passage, but that it is only to be found at the Orifices of the Wound. You see, Sir, the Proof of this Truth, and if you'll give yourself the Trouble to read the Recapitulation of my Book, towards the End of the last Chapter you'll find an Account of a wounded Person, where the Ball enter'd near the left *Zygoma*, and pass'd out as the right *Hypochondrium*. He was dress'd

dress'd with two simple Pledgets, and two Plaisters, and without hardly any Suppuration, or any unlucky Symptom, he was perfectly well in twelve Days. This Soldier was not prob'd; I seldom make use of a Probe, and when I do, it is different from that commonly in use. If a Seton had been pass'd through him, which to the Patient's Misfortune, is the common Practice in many Parts of *Italy* and *Piedmont*, it must have been half as long as a Well-rope.

You see, Sir, that my Arguments are supported by indisputable Facts; for there are no Proofs so likely to dissipate Uncertainty, as Experience: All Controversies are decided by it, and it may be call'd the Mistress of all Sciences. Upon this Foundation alone should we build, and not upon such frivolous Reasons, and chimerical Notions as *M. Maraviglia* has chosen to do.

And

And now, Sir, I begin to perceive that I have exceeded the Bounds of a Letter, and that 'tis high Time to conclude. I write to let you know that if you think the Arguments with which I oppose the use of Tents, to be worth publishing, I give you the Liberty to do it in what manner you please; though I think it would be most for the general Good, if you should put together in one Volume, all that you have written, together with the Letters of your Friends, and what your Adversaries have publisht on the Subject; thus the Reasons on either Side will appear in the same Book, and you will moreover be in the Company of the best Surgeons in *Europe* who have interested themselves in my Method, and will abide by it, whilst our Adversary with his few obstinate and uncharitable Adherents will in vain endeavour to diminish the Lustre of your Reputation. Oblige me, Sir,

322 *The Hospital Surgeon.*

in presenting my very humble Respects to the illustrious *M. Sancafani*, and believe me, beyond all Men, to be, Sir,

Your most humble and

most obedient Servant,

Venerie Royal,
4 July, 1714.

BELLOSTE.

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L E T T E R I I

F R O M

M. B E L L O S T E

T O

M. B O C C A C I N I.

S. I. R,

THE Agreeableness of the Country where I now am, together with the Love I bear to Mankind, determined me to do myself the Honour of writing you the Letter which you received by the common Post : But I must own to you, that I wrote it with much of that Precipitation which is natural to my Country, and with no other View than to oppose the Use of Tents. Since that Time I have had brought to me from *Turin* your Antagonist M. *Maraviglia's*

printed Reflections; and having read them through, I was willing to answer his Objections, one by one, having more especially taken Notice, that in his unmannerly Preface, *Pag. 7. l. 22.* He charges me with ill natured Raillery, (a Thing I abhor) and seems to be persuaded that it is not in my Power to bring Proofs which are capable of convincing him. God grant that those which I have produced in my former Letter, and those which I shall add in this, may open either his Eyes, or those of some Criticks more tractable than himself; at least, that they may take them off from their evil Design of imposing on other Professors. Before I come to my Answer, I shall be willing to repeat what I have said to you in my former; that if this Censor had read the Translation which *M. Sanctassani* publish'd of my Book, he would have saved himself the Trouble of forming Objections which have been already answer'd; but if he really has

read.

read it, then is he an extraordinary Instance of Rashness and Obstinacy. We shall shew him however, how ill he has disposed of his Pence in the Schools, and how far his Conscience must answer for his sticking to the Maxims he there imbibed about Wounds, which he treats so cruelly with his Tents.

1st. He says, *Pag. 6. l. 9. Cæsar Magati, contrary to all the Experience of venerable Antiquity, pretends, &c.*

Whereas it was Experience itself that undeceived *Magati*, by shewing him the sad Accidents to which the wounded are liable in the usual Manner of Dressing with Tents; this likewise has undeceived several Persons since his Time, and myself among others. In Matters of Fact, and in an Affair relating entirely to Practice, can there be any Proof so incontestable as Experience?

2^d. In the same *Page, l. 28.* he says, *This Notion died almost as soon as its illustrious Authors, &c.*

Had *Magati's* Method been buried with him, which I utterly deny, it is no Proof that it is either wrong or defective: Such a Misfortune ought rather to be ascribed to the Negligence and Ignorance, and perhaps to the Avarice of the Professors which came after him, who thinking it enough if they received their Salary, excused themselves the Pains which he took. Our Age however has made him amends for the Ingratitude of that he lived in. The same Disgrace happen'd to the learned *Sanctorius Sanctorij*, at this Day so famous: The Sun, from being obscured during his Eclipse, shines the brighter afterwards.

3^d. *Pag. 7. l. 3. Making a great stir about one single Observation, &c.*

Here M. *Maraviglia* is at you, Sir, but he knows not that this first Experience was follow'd by a great Number of other very curious ones, which others were made in pursuance of M. *Magati's* Method in all kinds

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of Wounds, and in all Parts of the Body. The first is that which opens the Eyes, and serves as a Guide to those which shall come after; and if he refuses to take the like Part upon him, he'll remain for ever buried in the Darknes of his own obstinate Ignorance.

4th. The same Page, l. 28. *It is certain there is no Wound which does not cause an Effusion of Blood in every Part of its Extent, &c.*

This Argument, which takes up almost the following Page, is vain to the last Degree, and to say the Truth, a mere Sport of the Imagination: To make it seem of some Weight, the Cavity should be supposed capable of containing a good Quantity of Blood, in which it may coagulate and ferment. But in Wounds, especially such as gave occasion to this Controversy, when Balls penetrate the Members, and pierce them from Part to Part, they leave no Cavity in their Passage; for they don't carry away
with

328 *The Hospital Surgeon.*

with them any of the Substance of the Parts, but only occasion a Discomposure in their Fibres, and their Vessels, and presently after they have passed, the Parts begin to approach to each other, and rejoin in such Sort as to leave scarce void Space enough to admit of a Probe. M. *Mara-wiglia* seems to be but slightly acquainted with Gun-shot Wounds. 'Tis true indeed, that having never dress'd them but with Tents, by introducing them into their Orifices, he must undoubtedly have seen the same Thing which any one else, who has Eyes, might have seen as well as he; namely, that where he introduces his Tents, which are left in the Orifices of the Wounds, those Tents keep open the Mouths of the Vessels which were severed by the Ball, and that then, and for the same Reason, follow Effusions of the Blood and Liquors, which being shut up between the two Tents, as between two Banks or Damms, they there ferment,

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ment, and alter the Flesh which contains them, 'till at length Abscesses are form'd, which discharging themselves, occasion abundant Suppurations, attended with dangerous Symptoms, which cruelly torment the poor Patient. These, Sir, are the fatal Consequences of Tents: Yet notwithstanding all this, these honest Surgeons will not scruple to set forth the Praises of these Discharges to the affrighted By-standers, telling them and the Patients, that they are surprized, only because they are unacquainted with Surgery, and that this filthy Matter would remain in the Parts to the great Detriment of the Patients, if they did not take care to keep open the Orifices with Tents. But let the Devil run away with all these Tents, and then we should have neither Suppuration nor ill Symptoms. I am of Opinion that the Ancients introduced the Use of them because they really thought them necessary: But is this the only Matter
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330 *The Hospital Surgeon.*

in which they happen'd to be mistaken? Did not the false Notions which they had about Sanguification, Circulation, and the Use of the *Viscera*, besides many others, shew that they might be as well misled in Point of Practice.

5th. Pag. 8. l. 21. *The Ancients had three principal Motives for bringing Tents in Use, &c.*

I really ought to be angry with M. *Maraviglia* for imagining, as he does in his Preface, Pag. 4. l. 35. that I am Sot enough not to discern that he writes against *Boccacini*, and not against *Magati*. But God forgive this young Spark, as I forgive his Rashness and Want of Judgment. To convince him of his Delinquency, it will be enough to cast an Eye upon the Article, where after speaking of the three Motives which brought Tents in Use, he sets about to prove, *That the introducing of Tents into Wounds, does not occasion so great a Quantity of Pus as our Surgeon imagines.*

gines. I well know that 'tis you he would speak of, only you and *Magati* are to be attack'd together. What I have said proves, I think, evidently, that abundant Suppurations are occasion'd by Tents: I am now to shew, that the Facility, with which, by their Help, Medicines insinuate into the very bottom of Wounds, is of no Manner of Service towards a Cure; which is the second Motive he urges in Favour of them. Medicines, as you perfectly well know, can have no other Effect than to dissolve the Balm of the Blood, and render it unqualified for the Purposes which the Patient stands in need of. Can the World shew a Surgeon who is so mad as to imagine that Medicines can unite with this natural Balm of the Parts, and be convertible into our Substance? Is the Case the same with Remedies as with Food, which is first digested, then changed into Chyle, and lastly, into Blood? 'Tis barbarous Cruelty in *M. Maraviglia* and his Adherents,
to

332 *The Hospital Surgeon.*

to stuff Tents and Unguents into Wounds. Both the one and the other are, and will ever continue to be foreign Bodies, which are, and will ever remain Obstacles to that Reunion, which I observ'd to you in my former, should ever be the first End and Mark to be had regard to in the Treatment of Wounds. If it will not offend your Adversary, I will tell him that this Re-union always begins in the Middle of the injured Parts, and at the Bottoms of Wounds: There is no Truth more evident than this, and it is somewhat surprizing that M. *Maraviglia* should be ignorant of it.

6th. Pag. 9. l. 9. *Tents should be made of very clean, fine Lint, &c.*

Mighty well! And if they are ever so soft and fine, are they not still foreign Bodies, which Nature cannot endure without great Pain? In Truth, Sir, they are no less liable to irritate the delicate Parts of the quick Flesh, by touching and rubbing against it; and

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and by irritating it the Mouths of the Vessels will be kept open, and the Liquor will be constrained to issue out continually.

7th. The same Page, l. 17. I don't however deny that Tents cause some small Pain, &c.

Be the Pain small or great, our utmost Care should be to suppress it entirely in the Cure of Wounds: To it are owing all the bad Symptoms which arise, and a Man cannot have a more cruel Enemy. *Pus* never abounds more, nor is more corrupted than when the Parts are as it were soak'd and bath'd by its stay: But there is never any when the Orifices are free from all Incumbrances; because the Parts fall together by their proper Weight, and their Extremities unite, in such Sort that they leave no void Space between them capable of containing either Blood or *Pus*; and the Re-union is here compleated without any Obstacle. But *M. Maraviglia* asserts, that a Stop-

page

334 *The Hospital Surgeon.*

page of Suppuration, or a Retention of corrupted Humours, do more Mischief than Tents. Alas, will he never consider that this Suppuration of the Humours is the Effect of the Tent which he introduces, and thereby the Cause of all the unlucky Symptoms which he observes to arise from thence. Once more I assure him, that if he'll throw away his Tents, he'll see no more Discharges of Pus and Corruption.

8th. Pag. 10. l. 9. *The Particles of the first and second Element which are diffaminated in the Air, &c.*

This miserable Jargon, which fills up all the tenth Page, deserves not an Answer: But to hear him talk of *stinking Winds, Quantities of Pus and Imposthumations that fly off from the Wound continually in Vapour*, one would imagine that the Ball had left behind it a Cavity as big as the Stomach. As for Vapours, they fly off no doubt on't, in immense Quantities, from the Brain of your hot-headed

headed Opponent, in the Fit of Transport which seizes him as often as he thinks himself the lucky Man who made so important a Discovery.

9th. Pag. 11. l. 8. *It is my present Opinion, that I have demonstrated to them the contrary of, &c.*

I know not where to match your Adversary at setting forth the Virtues of Medicines, and recommending the Use of them as indispensibly necessary. He asks for Proofs to the contrary: It is easy to furnish him with enough of them, provided he'll be satisfied with such as the Senses are Evidences of; for they are not sophistical Arguments distill'd from a Brain that has been straggling in the Labyrinths of vain Metaphysicks; no, they are certain Facts, and even Practice itself, which are the Proofs I mean: And who are better enabled to judge about the Difference of Methods, than such Masters as have been employ'd for a very long Time in Posts where Operations are frequent,

336 *The Hospital Surgeon.*

quent, and where they had all desirable Convenience and Authority to act according to what their Judgment dictated to them? Such as these, and not M. *Maraviglia*, are fit Persons to convince the World that the greatest Part of the unlucky Consequences which happen to wounded Persons, are the fatal Effects of the bad Way of treating them. This practical Proof is conclusive: It is a Demonstration, in Competition with which all Objections must lose their Force and drop to the Ground.

10th. Pag. 12. l. 24. *All Books being full of Relations of marvellous Cures, which were deem'd Incurable, &c.*

I am satisfied that Books are full of Cures of Wounds that were thought past cure, and that in these, Tents are made use of. I will add yet more: I have cured many such myself, before I renounced Tents, and embraced the contrary Method. But I ingenuously must own, that many slipp'd through

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through my Hands, whose Cure I am well satisfied had been certain, if I had then known and practised the Method which M. *Maraviglia* so highly disapproves of. Moreover those whom I cured, return'd not away without having endured mortal Pains and terrible Symptoms, which Tents only occasion'd; and to Tents alone it was owing, that these Cases were thought to be out of reach, and their Cures look'd upon as miraculous. In short, since I took leave of Tents, I have cured, and caused to be cured, a vast Number of the like Wounds, with as much Ease as if they had been but simple Excoriations.

11th. The same Page, l. 27. *And in a Case of little Importance, such as that which he glories so much in, &c.*

I protest I am astonish'd, and who can blame me? Does M. *Maraviglia* call it a slight Accident, when two Balls, one the Day after the other, have perforated the Thigh, and a third remains in it? These three Wounds the honest Gentleman calls small

Q Grazings,

338 *The Hospital Surgeon.*

Grazings, (*Page 17. l. 13.*) He might have well spared the Pains of Writing such Reflections. The very little Pain, and the Expedition with which the Patient was cured, put it into his Head to talk at such a rate. Had these three Wounds been dress'd with Tents, what had then been the Danger and the Consequence? Had poor *Bonnefoi* fallen under *M. Maraviglia's* Clutches, or his Master's, and after having been reduced to a miserable Condition by their Method, had been so lucky as to escape alive, would not the Cure have been rank'd amongst the Marvellous and Incurables? Our Doctor speaks with so undaunted Assurance, and in so high a Strain, that if you hearken to him, and believe him, you must needs think that he never meddles with less Wounds than those of Cannon-balls.

12th. *Pag. 13. l. 5.* It will serve but to little Purpose, to say with *Magati*, that every Thing should be committed to the Care and Efforts of Nature, &c.

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I demand why this Reason is of no Force? Why, says M. *Maraviglia* himself, it is because Nature stands in need of Assistance in Wounds, as well as in all other Disorders. But how frequent does it happen in other Disorders as well as Wounds, that whilst the Physician and the Surgeon imagine they are assisting Nature, they are on the contrary ruining and destroying her? And he will surely be wide of his Mark, who thinks to comfort Nature by dressing Wounds twice a Day, or oftener: He only invades the Health of the Patient, by exposing his Wounds to the Injuries of the Air; and he is much deceived who fancies the introducing of Tents can assist Nature in her Way of Acting, it being one of the greatest stumbling Blocks that can be thrown in her Way, which I cannot otherwise demonstrate, but by repeating what I have already urged to establish this Truth.

13th. Pag. 14. l. 31. *The Balls should be extracted as soon as possible, &c.*

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Reason,

340 *The Hospital Surgeon.*

Reason, Theory, and Practice do all equally direct that Balls should be extracted as soon as possible, especially when there is Danger of their descending into some Cavity, or when they are so lodged, as to obstruct the Action or Motion of any Part; but except in these two Cases, when the Extraction of them is attended with any Difficulty, they should be left to the Management of Nature. There is no need of appealing to the Authorities of any great Masters for establishing the Usefulness of this Maxim; the Fact is so clear, that the Thing is self-evident. A small Share of Practice added to a Spark of good Sense, will hinder any Man from imagining otherwise; and I cannot but commend your Judgment in treating *Bonnefoi* in this Manner: The Conduct of Nature in bringing the Ball, which you wisely left behind, to the Skin, will secure you against the Censures of all the Criticks in the World.

14th. Pag. 16. l. 16. *Who is ignorant*

*norant of the Uncertainty of the Con-
jectures which are drawn from the
Pulse? &c.*

It is but too true, that a Number of Remedies do much contribute to the greater Part of the bad Accidents that happen to wounded Persons, as I have observ'd oftner than once. Read my Book, where there is a whole Chapter upon this important Article. It is likewise certain, that a skilful Practitioner, knows by the Pulse of a wounded Person, the Condition of the Wound, without looking upon it, and how the Cure proceeds: There is no need of taking the Dressings off to come at the Knowledge of this: But this Knowledge is not every Man's Inheritance: It is reserv'd for experienc'd Masters, who are more attentive and anxious about their Patients Welfare, than about vain Glory, and an illusive Reputation. No, it will never be bestow'd on such as study only to recommend a dangerous Method, from whence no Be-

342 *The Hospital Surgeon.*

nefits can accrue to the Afflicted. I speak not here of those whom the Transports of Jealousy, or an Excess of Avarice, may occasion to look with an evil Eye upon our Method. If such Masters there be among us, whose Hearts are stained with black Malice, I will not rank them with Men that may have still some Sentiments of Humanity left.

15th. Pag. 18. L. 5. *To compass the Cure of simple slight Wounds, like that which he cured, &c.*

Are our new Author's Eyes still clos'd, that he yet regards as Trifles, Wounds of great Danger? You were much in the right, to tell him, as you did, that they were such Grazings as he would not much have ear'd to be troubled with himself. And I tell him, for my own Part, that these Trifles would, in his Hands, or those of his Adherents, have pass'd for miraculous Things, and mortal Wounds, by being treated in their dangerous Manner.

16th. The same Pag. L. 21. *If any Vessel be cut, &c.* When

When Wounds are absolutely mortal, no Method can cure them. Nevertheless, on this Occasion, as well as all others, that which excludes Tents and frequent Dressings, will prove the best, as it will at least procure the Patient an easy Death; and it is no inconsiderable Advantage, to suppress Pain, and prevent a Number of craciating Symptoms.

17th. *Magati has left in his Books elegant and noble Receipts, &c.*

I do not doubt but many Authors, as well as *Magati*, have interspers'd in their Writings a Number of specious Remedies, and long Forms: But I believe at the same Time, that those venerable Ancients never made use of them, but contriv'd them only to swell the Bulk of their Volumes, by inserting them with a sage and magisterial Air. For it is very true, that all that is essential in Medicines necessary for Wounds, may be included in a very small Space; and those Surgeons who use the fewest are the most judicious in their Art.

344 *The Hospital Surgeon.*

18th. At the same Place towards the End, *follow the main Road, &c.*

If *Malphigi* and several others had never step'd out of this main Road, we had never been bless'd with so many fine Discoveries as they had the Satisfaction to make, to the great Advantage of Physick. In a Word, we see that Practice has perfected the Progress which Theory begun, and that the main Road is now trodden only by the Illiterate, and the Obstinate.

I conclude, Sir, by leaving you at liberty to make what use of this brief Reply you shall think fit, if you judge it may be of any Advantage to the Publick, and intreat you to believe me, Sir,

Your most humble and

most obedient Servant,

Veneris Royal,
11 July, 1714.

BELLOSTE.

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I N D E X.

A

A CIDS, how their Points are destroy'd by crude Mercury, 60.

Air, retards the Cure of Wounds, 166, 180, 181.

Amulets, of crude Mercury prevent Contagion, 68, 69, 70, 71, 73, 74.

Animals, probable that each contains in itself a Medicine that will cure its own Wounds, 169.

Aorta, Wounds of it fatal, 197.

Aqua Hermetica, shews the Minuteness of the volatile Particles of Mercury, 84.

Astringents, good in a Descent of the Intestine into the *Scrotum*, 135. How they act, 138. Good in a *Sarcocoele*.

B

Bleeding, very necessary in Wounds of the Lungs from a cutting Instrument, 196. Also when the Veins or Arteries of the Ribs are divided, 199.

Bodies, foreign, introduced into Wounds, prevent Re-union, 186.

Bronchocele, frequent in *Piedmont*, 277.

C

Callus, form'd by Tents, 185.

Caustick-stone, applied behind the Ears, the best Remedy in Diseases of the Eyes, 257.

And why, 260. A very remarkable Case of its Effect, *ibid*. A *Gutta serena* cured by it, 263. Would very probably be of Service in the Plague, 267. And in the Small-Pox, and other Ferments, 273.

Cholick, its Fit put off by crude Mercury, 27.

Cicatrix, form'd by the nutritious Juice, 293.

Coagu-

I N D E X.

Coagulations, dissolv'd by crude Mercury, 14, 15, 16. How 49, 50, 51. A strange Case of one 279. Another, 280.

Contagion, prevented by crude Mercury, 67, 68, 69, 70, 71.

Contusions, occasion'd by Tents, 318.

D

Diseases, how Nature cures them, 106, 107.

Dogs, how they cure their Wounds by Licking, 164.

Dressings, frequent, the Inconveniences of them, 178, 179.

E

Elasticity, animal, acts from the Centre towards the Circumference, 313. Is the Agent and Spring of *Crises*, 315.

Emollients, bad in a Descent of the Intestine into the *Scrotum*, 131, &c. Not serviceable in incysted Tumours, 284.

Empyema, how it may be treated, 196.

Enterocoele, what, 129.

Escarr, in Gun-shot Wounds, what, 174. The falling of it in Gun-shot Wounds, what 175. Of the Meaning of the Word, 293, &c.

Excrements, cannot pass into the *Scrotum* in a Descent of the Intestine, 144.

Eyes, their Diseases, 252, &c. Seldom cur'd by *Collyria*, Vescicatories, Cupping, &c. 255. Best cured by applying Causticks behind the Ears, 257. And how, 260. A very remarkable History of such a Cure, *ibid*.

F

Fibres, folded down by the Ball in Gun-shot Wounds, 174.

Fistula's

I N D E X.

Fistula's, cur'd by crude Mercury, 15. Occasion'd for the most Part by Tents, 16, 185.

Frictions, mercurial, how they occasion Salivations, 52, 60, 87.

Fumigations, mercurial, how they occasion Salivations, 52, 60, 87.

G

Gout, cured in its Infancy by crude Mercury, 36, 116, 120.

Gravel, cur'd by crude Mercury, 23, 98.

Gun-shot Wounds, why not attended with any Hemorrhage at first, 174. Why supposed to be lin'd with an Escare, *ibid.* Why a Hemorrhage comes on after certain Days, 175. Should not be dress'd with Tents, and why, 175, &c. Their Orifices should be enlarg'd, 189. Should be dress'd but seldom, 190. The Patient should lie on the Wound, 194. A Case, 202. Another, 212.

I

Jaundice, remov'd and kept off by an Amulet of crude Mercury, 74.

Iliac Passion, taken off by crude Mercury, 56, 150.

Injections, 153. Weaken and alter the Balm of the Blood, 155. Destroy the Elasticity of the Fibres, and thereby occasion extravagant Suppurations, and tedious Cures, *ibid.* Dissipate the animal Spirits, 156. Increase Solutions of Continuity, and make *Sinus's*, *ibid.* Occasion Contusions on the Parts when they are squeez'd out, 157. Endanger Putrefaction, 158. Form *Callus's*, *ibid.* To be laid aside for the same Reasons that Tents should, 159. Intestine,

I N D E X.

Intestine, how to be reduc'd when fallen into the *Scrotum*, 126, &c.

Itch, cur'd by crude Mercury, 29.

L

Leprosy, cur'd by crude Mercury, 33. Sister to the Pox, 34, 99.

M

Mercury, 4. The Heat of the Body not sufficient to sublime it, 4. Its Sublimation requires Rest and Heat, 61. Frequently swallow'd by the Women of *Smyrna*, and the Workers in Mines, 6, 62. Crude, cures the Pox, 9, 11. And *Schirrhus's*, 11, 13. Does it by acting on the Coagulations as an Absorbent and Dissolvent, 14, 15. And how, 49, 50, 51. Cures *Scrophula's*, 18. Cures Tumours of the Liver, 20. And of the Breast, 22. Cures the Gravel, 23, 98. And Suppressions of Urine, 24, 25. Cholick, 27. Mixes with the Contents of the Stomach, and is carried partly into the Lacteals, and goes off partly by Stool, 28, 29, 63. Cures the Itch, 29, and Teters, 30. and Pustules of the Face, 31. Mixes with the Lymph, 32. Cures the Leprosy, 33. and the *Sciatica*, 35, 113. and the Gout, 36, 116, 120. Crude, imbibes not Acids, 42. Not can it unite with them, 61. Stops Vomiting from Worms, 45. Kills and brings away Worms, 45, 46, 47, 48, 49. Can never assume vitious Qualities, but when it is divested of its Figure and Motion, 51, 65, 92, 95. How it raises Salivations by Frictions and Fumigations, 52, 60, 87. That Effect

Eff
M
Q
56
Ac
th
E
dy
of
73
H
78
be
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wi
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of
saf
Ca
G
10
Pi

Natu
16
th
18

Oil,
&c

Palsy
ap

I N D E X.

Effect never produc'd by Mercury, as crude Mercury, 53. Crude swallow'd in large Quantities, in the *Volvulus* or Iliac Passion, 56, 150. How it destroys the Points of Acids, 60. Crude better for medicinal Use than any Preparation of it, 64. A capital Enemy to all Diseases, 66. Secures the Body against Infection, 67. Crude, Amulets of it prevent Contagion, 68, 69, 70, 71, 73, 74. And keep off the Jaundice, 74. How Mercury operates in the Body, 76, 77, 78, 79, 80. How it comes to be an Absorbent and a Dissolvent, 82. Its Parts exceeding minute and subtile, 83. Crude may be taken by the Mouth a Year together without salivating, 95. Its Effects not varied by any Difference of Climate, Age, Sex, &c. 97. Crude increases the Strength of the Patient, and how, 103. May be safely administred in Apoplexies, Palsies, Cataracts, and *Gutta Serena*, 104, 105. Gives the Patient no Disgust or Conflict, 106. Cures a *Sarcotele*, 122. Cures red Pimples of the Face, 250.

N.

Nature, how she cures Diseases 106, 107, 160, 161. Always employ'd in repairing the Damages that happen to our Bodies, 185. Regular in her Operations, 208.

O.

Oil, impenetrable to Air 167. Kills Worms, &c. 169.

P.

Palsy, may be occasion'd by crude Mercury apply'd externally 53. Pimples,

I N D E X.

Pimples of the Face, 242, &c. not occasion'd by the Liver, 243, &c. Produc'd from the Nitre of the Blood, and the Nitre of the Air, 246. A simple Indisposition of the Skin and Scarf-Skin, *ibid.* Best remov'd by Absorbents and Dissolvents, 249. Crude Mercury an excellent Medicine in such Cases, 250.

Plague, said to be produc'd by Worms, or their Eggs, 65, 67, 71, 72. Crude Mercury good to prevent it, 67. A way of treating it by opening large Issues at the E-munctories, 267. This best done with a Caustick, 270.

Plethora, of a Part occasion'd by Tents, 317.

Pox, cured by crude Mercury, 9, 11. Mercury a Specific in the Pox, 102.

Pulse, Shews the Condition of Wounds, 322.

Pus, an Extract of the Blood, and of the nutritious Juice, 155.

Pustules, of the Face, cur'd with crude Mercury, 31.

R.

Rheumatism, cured by crude Mercury, 36.

S.

Saliva, of Dogs, helps to cure their Wounds, and how, 166, &c.

Salivation, how rais'd by Mercurial Frictions and Fumigations, 52, 60, 87. Never excited by Mercury, as crude Mercury, 53, 95. Both a dangerous and an uncertain Practice, 89. Was brought into Credit by the evil Preparations of Mercury, 92.

Sarcocelé, reliev'd by Astringents, 148. To be

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Small
70
W
Sciati
Schr
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Pa
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cu
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I N D E X.

be destroy'd by Diffolvents only, when they are old, 149. Produc'd by an abundant nutritious Juice, 152.

Small-pox, kept off by Mercurial Amulets, 69, 70, 71. Suppos'd to arise from the Eggs of Worms, 70, 71.

Sciatica, cur'd by crude Mercury, 35.

Schrophula, cur'd by crude Mercury, 18. Why long in curing, 20.

Scrotum, an anatomical Description of its Parts, 128.

Suppression of Urine, remov'd by crude Mercury, 24, 25.

T.

Tents, occasion *Fistulas*, 16. Bad in Gunshot Wounds and why, 175, 181, and in Wounds of the Breast, 183, 184, 187. Ulcerate the Lungs, 187. Not to be used in crook'd Wounds, 221, &c.

Teter, cur'd by crude Mercury, 30.

Tumour, Schirrhous, cur'd by crude Mercury, 11, 13. Of the Liver cured by crude Mercury, 20. Of the Breast cur'd by crude Mercury, 22. Incystated Tumours frequent in *Piedmont*, 275. Arise from northerly Winds, watry Vapours, a wrong Diet, and want of Exercise, 276. not to be neglected at first. 280. A Case of one neglected, 281. Another, 282. Not to be remov'd by Emollients or Purges, 284. Dissolvents and Absorbents the best Remedies here, 285. May be dissipated in their Infancy with Discutients and Astringents, 289. Best remov'd by a Salivation if they are inveterate,

I N D E X.

veterate, 290. Crude Mercury likewise serviceable, 291. Another Case, *ibid*.

V.

Vena cava, Wounds of it mortal, 196.

Vomiting, from Worms, taken off by crude Mercury, 45.

W.

Wounds, penetrating of the Breast, 172, 183, 184. Not to be dress'd with Tents, 175, &c. Not to be dress'd often, 178. Blood, *Pus*, or Lymph retain'd in their Cavities occasion many bad Symptoms, 194. Of the Breast, a Case, 206. Another, 210. Of the lower Belly, a Case, 211. Crook'd not to be dress'd with Tents, 221, &c. More easily cur'd than strait ones, 226. A strange Case of a crook'd Wound, 232. A Case of one dress'd with Tents, 237.

F I N I S.

